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ABSTRACT

To gather empirically based data to assist in the formulation of federal rules for the nation's bilingual education programs, the authors studied six school districts in the western United States. All the participating school districts had well-established bilingual programs. Data were collected through structured interviews with superintendents, bilingual program directors, budget directors, school principals, teachers in both bilingual and monolingual English programs, and instructional aides. Three major questions were addressed in the study: How does provision of bilingual education vary among school districts? Why do these variations arise? How do these variations affect cost? The study revealed wide variation in the timing and emphasis placed on the content of bilingual education, in the delivery mode used, and in the availability of qualified teachers. Concentrating on analysis of the added cost for instructional personnel in bilingual programs, the authors found that the programs add between $100 and $500 to the per-pupil cost of instruction. The total added cost of these programs ranges from $200 to $700 per pupil. The study presents a new method of computing added costs derived from economic principles. (ND)

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PREFACE

This Note is the second reporting Rand assistance to the U.S. Department of Education, Office of Planning and Budget, in estimating the cost of bilingual education in the United States. The authors present empirically based estimates of the added cost of bilingual education in six school districts located in the West and Southwest. We undertook this study to inform the Department concerning newly proposed rules for bilingual education. The work builds on previous work on the cost of bilingual education reported in Rand Note N-1504-ED, Findings of a Seminar on the Cost of Bilingual Education, P. Carpenter-Huffman, July 1980.

SUMMARY

PURPOSE OF STUDY

The work reported here was carried out at the request of the Department of Education (ED), Office of Planning and Budget, to obtain improved estimates of the cost of bilingual education. Past research in the area[1] was inadequate to meet ED's needs for cost information to inform policy decisions. In particular, ED sought empirically based data to assist in the formulation of rules for the nation's bilingual education programs. The Department wanted to estimate the economic cost that the nation would bear if the rules were adopted.

The need for assisting in the rule-making constrained the time available for the study. (Three months elapsed between initiation of the study and oral presentation of preliminary findings.) Nevertheless, in undertaking this work, we hoped to shed light on several questions fundamental to federal policy-making for bilingual education. These are:

- How does provision of bilingual education vary among Local Education Agencies (LEAs)?
- Why do these variations arise?
- How do these variations affect cost?

We pursued these broader objectives so that our findings would be useful, whether or not the rules were adopted in their proposed form. (The shelving of the rules in January, 1981, therefore, did not vitiate our

[1]Reviewed in Carpenter-Huffman, 1980.

findings.) We also sought other information of interest to ED, namely, procedures for identification and assessment of Limited English Proficient (LEP) [2] students, teacher availability, parent involvement in bilingual programs, and the relation of categorical funds to delivery of bilingual services.

PROCEDURE

To obtain this information, we selected six LEAs of varying sizes, program types, and LEP enrollments. To reduce travel time, we chose LEAs in the western United States; to insure the availability of data, we chose LEAs that had fairly well-established bilingual programs. We collected the data through structured interviews of superintendents, bilingual program directors, budget directors, school principals, teachers in both bilingual and monolingual English programs, and instructional aides. We randomly chose schools and teachers from lists provided ahead of time by bilingual program staffs. In all, we talked to about 150 teachers and gathered data on sixty schools.

Clearly we could not visit a representative sample of the nation's bilingual programs within the limited resources at our disposal. Moreover, we did not have time to take full advantage of early study findings as the study progressed, nor did we have time to collect and analyze all potentially useful data in the larger LEAs. Even so, we obtained new, useful insights regarding the questions posed earlier and

[2] The term Limited English Proficient (or, sometimes, Non-English Proficient--NEP) refers to students whose ability to speak English is deficient or lacking because their home or native language is not English.

were able to make rough estimates of the added cost of bilingual education in the LEAs we visited.

PROGRAMS AT SAMPLE SITES

For example, in these LEAs, identification and assessment of LEP students focus on establishing the level of students' ability in speaking and understanding oral English. Little or no effort is made to measure the students' proficiency in their primary (non-English) languages. Beyond this, often no tests exist for students whose primary language is neither English nor Spanish.

In the sample LEAs there is wide variation in the timing and emphasis placed on the content of bilingual education, e.g., instruction about the students' primary language, instruction about English (English as a Second Language, or ESL), and academic instruction using the students' primary language. The procedures used to provide this instruction, however, fall into one of two general modes--self-contained classrooms or pull-out instruction. In the former mode, a bilingual teacher or a teacher assisted by a bilingual aide takes on the role of the classroom teacher. In the pull-out mode, students are removed from their assigned classrooms for small-group instruction. At the secondary level, teachers for LEP students are usually equivalent to departmental teachers. There is little pull-out instruction at the secondary level.

In the sample LEAs, the delivery mode used depends on the numbers of LEP students requiring services, their primary languages, the availability of qualified teachers, and district policy. The availability of qualified teachers depends, in turn, on several interacting factors,

including the length of time that the bilingual program has been offered and the rate of enrollment decrease. Although one of the LEAs offers a monetary bonus to bilingual teachers, it is small relative to rewards for seniority. Thus, it was not surprising that appreciable numbers of teachers qualified to instruct in the bilingual program are not doing so.

We found that the fraction of the students' instructional day spent in language assistance depends strongly on the delivery mode used. At the elementary level, students in bilingual, self-contained classrooms receive more language assistance than do students in pull-out programs. We also found that instruction in bilingual, self-contained classrooms appears to be apportioned similarly in the districts we visited among subjects such as ESL and instruction about the primary language. In pull-out programs, however, the apportionment of the instructional day among such subjects varies widely among districts.

Although each of the LEAs we visited tries to involve parents of LEP students in the bilingual program, we found little parent participation. School staffs offered several reasons for this, such as, that working parents lack time, and those here illegally fear they will be identified to government authorities through the schools.

We found that the intensity of bilingual services is related to the funds available; the programs in the small, rural districts are particularly limited by funding. Most of the LEAs we visited, however, used funds from a variety of sources to support the program, and it was not uncommon to find teachers or aides who are funded under such compensatory programs as Title I providing bilingual services. Use of funds

targeted to bilingual programs for other purposes seems less common, probably because there are fewer such funds available.

ADDED COST AT SAMPLE SITES

The rules would have required the nation's LEAs to provide particular language assistance services to particular categories of LEP students. To estimate the economic cost of the rules, we must establish the economic cost of the services the rules would require. We take the economic cost to be the cost of providing language assistance services above what would be the cost of education if these services were not provided. To determine the cost of the services, we enumerated the resources (i.e., the teachers, aides, materials, and so on) that are used to provide the services and obtained data that allowed us to estimate the unit cost (e.g., teacher salary) of each type of resource. This information permitted us to compute the total cost of delivery of the services, independent of the funds that may have been added to the LEA budget to purchase these services. By subtracting the cost of education without the bilingual program from the total cost of language assistance services, we derived an estimate of added cost.

We did not have time to perform a full analysis for all educational functions, such as purchase of materials, staff development, and program administration. Therefore, we concentrated on analyzing the added cost of instructional personnel; since instruction is the heart of the program, instructional personnel usually account for more than half of the cost of education, and earlier estimates of the added cost of instruction vary by a factor of two or more. To estimate the added cost of the

other functions, we used various procedures and assumptions; generally these lack the rigor we applied to estimate the added cost of instructional personnel.

We found that bilingual programs add between $100 and $500 to the per-pupil cost instruction in the LEAs we visited. The amount added depends on several factors, including average teacher salary, the extent to which the program uses the pull-out mode of delivery, and the extent to which aides are added to bilingual, self-contained classrooms. In general, pull-out instruction adds more cost than does instruction in bilingual, self-contained classrooms in a given LEA.

At the sample sites, the total added cost of bilingual programs per pupil ranges from $200 to $700; between 50 and 70 percent of this is accounted for by the added cost of instruction. Staff development and program administration often add appreciably to the cost, but student identification and assessment and parent involvement appear to add little.

CONCLUSIONS

The work reported here presents new methods for computing added cost derived from economic principles. It also provides insights into the variability in added cost that obtains in some LEAs and the sources of that variability.

Because the added cost of bilingual programs depends strongly on the mode of delivery, much work remains before the nationwide cost of bilingual programs may be estimated. One would have to establish the added cost, by mode, for a nationally representative sample of LEAs.

Then one would need to determine how many LEP students would be served by each mode. This would, at the least, require estimates of the extent and intensity of service to be provided to groups of students with varying needs, the numbers of students in each group in each LEA, and the availability of teachers to provide the services. These estimates, together with state and local policies for providing bilingual education, would permit one to estimate the added cost of bilingual programs to the nation.

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I. INTRODUCTION

This Note describes the current delivery and cost of bilingual programs in six Local Education Agencies (LEAs). We undertook the study to help the Department of Education (ED) estimate the cost to the nation's economy of regulations proposed in August, 1980, for bilingual programs.

Several researchers have estimated that bilingual programs add from $150 to $300 per student to the cost of education.[1] School districts, on the other hand, report added costs per student ranging up to $1000.[2] This study was an opportunity to discover the basis for these discrepancies; resolution of this issue would clearly be useful to ED in its deliberations concerning the proposed rules.

ORIGIN OF THE STUDY

In the Education Amendments of 1978,[3] the Congress of the United States mandated a national research program on bilingual education. This mandate, which appears in Part C of Title VII of the Elementary and Seconday Education Act,[4] included a requirement for research on the management and cost of bilingual education.

To assist what were then the Assistant Secretary for Education, Policy Analysis, and the Office of Bilingual Education[5] in pursuing

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[1]Alston, 1977; Cardenas et al., 1976a and b; García, 1977; Guss Zamora et al., 1979; Robledo et al., 1978.

[2]Informal communications to the authors.

[3]PL 95-856, Section 742 (b).

[4]Hereafter referred to as Title VII.

[5]These agencies have been replaced in ED by the Office of Planning and Budget (OPB) and the Office of Bilingual Education and Minority Language Affairs (OBEMLA).

these research objectives, Rand hosted a seminar on the cost of bilingual education in February, 1980.[6] The seminar brought together those knowledgeable about bilingual education, or the cost of education, or both, to review what was known in the area and to develop an agenda for further research.

Seminar attendees agreed that available cost data were too limited to inform federal policy decisions. Most of the data related to the cost of only a single type of hypothetical program in a restricted geographic area; data on existing programs were available only for New Mexico and Houston and were not related to program content. Finally, past work provided no guidance for extrapolating cost beyond the programs described.

Previous work on the cost of compensatory and special education was also discussed at the seminar. From this, together with the work on the cost of bilingual education, attendees designed the research on the cost of bilingual education that would be required to fill policy-making needs. This research, described in the seminar report cited previously, would be expensive because data would have to be gathered from a large number of LEAs to form a representative sample.

As an alternative to the full-scale research proposed, some of the attendees believed that a small number of case studies could shed useful light on what bilingual education programs are and cost. Although representativeness of the data would be unknown, it would provide insight into the variability in costs by district size, location, and instructional delivery system would be relatively inexpensive, and

[6]The seminar is described in detail in Carpenter-Huffman, 1980.

could be completed in a short time. The work reported in the present Note arose from this suggestion.

The Secretary of Education proposed new rules to "implement provisions of Title VI of the Civil Rights Act of 1964 to prevent national origin discrimination in elementary and secondary education."[7] Members of the education community had sixty days to comment on the rules. The rules departed from past practice in that they defined categories of students based on their linguistic proficiency and tied specified curriculum to these categories.

Executive Order 12221 requires that if a proposed regulation may cost the nation more than $100 million, the cost of the regulation must be analyzed in detail. Therefore, ED also provided preliminary estimates of the cost of the proposed rules;[8] they estimated that, depending on their final form, the rules would add from $180 to $390, or $290 to $590, per pupil to the current cost of education. The variations within each range arose primarily from uncertainties in the cost of instruction, which was estimated to account for between 43 and 72 percent of the total added cost per pupil.

Largely because of uncertainties such as these, ED sought assistance from several research organizations, Rand among them, in obtaining more definitive information for designing the final version of the rules. Because the original period for comments was sixty days, we planned the research to obtain as much useful data as possible within a short time.

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[7]Department of Education, August 5, 1980, p. 52052.
[8]Department of Education, August 11, 1980.

Although our charge was to assist in the rule-making, we saw the study as an opportunity to pursue more fundamental research goals, described shortly. Therefore, the tabling of the rules in January, 1981, did not depreciate the value of the work.

STUDY SCOPE AND OBJECTIVES

Our immediate objective was to obtain better information for ED to use in estimating the cost of the rules. This information would be better in two senses: It would be empirical, rather than hypothetical, and it would capture some of the variety in provision of services that we suspect obtains in the nation's LEAs.

During the LEA visits, we examined the possibility of estimating what effects the rules would have on the cost of education in these LEAs. If LEA staff could identify the numbers of students who fall into each of the categories defined by the rules, and if we could establish the added cost of bilingual programs currently provided in the given LEAs, we could derive rough estimates of the effects of the rules on cost by extrapolating the added cost to the newly identified student populations.

To a large extent, the time available for the study constrained its objectives. Three months elapsed between initiation of the study and oral presentation of preliminary findings; two consultants assisted the authors in structuring and administering the on-site interviews. Despite these constraints, we explored fundamental questions about the delivery and cost of bilingual education and examined a broad menu of issues posed by ED.

Primarily, we wanted to shed light on several questions that are fundamental to federal policy in bilingual education. These are:

- o How does provision of bilingual education vary among LEAs?
- o Why do these variations arise?
- o How do these variations affect cost?

Our findings in these areas may not represent the nation's LEAs as a whole, but they illustrate the linkages between the school district environment, procedures for delivering services, and cost. These provide a firmer basis for further work by ED than would the usual cost-estimating procedure that obtains a cost per student by merely dividing the funds earmarked for bilingual programs by the number of students these funds are purported to serve. Such an approach is not only based on erroneous assumptions (as we show later) but also provides no insight into what services the funds are providing and why. Without such insights, there is no way to know whether the costs incurred by one LEA are appropriate to another.

Much of the work reported here focused on obtaining an understanding of the linkages described above, which is valuable in itself. This understanding is also necessary for establishing economic cost, which measures the value to the nation of the resources required to provide bilingual programs. By resources we mean the teachers, materials, administrators, and other things that, taken together, provide the required service. Thus, we built costs from resources, as did the ED cost analysis.

We focused our study on determining the processes and costs of language assistance instruction for three reasons:

- o Instruction is the main purpose of education.
- o Instruction usually consumes the bulk of educational resources.
- o Uncertainties about the added cost of instruction were displayed in the ED cost analysis.

We also collected information on related functions, such as staff development, purchase of materials, and program administration.

We collected data and information on a variety of other issues surrounding the proposed rules. Among these are:

- o Procedures for identifying which students need services and assessing their levels of need.
- o Availability of qualified teachers.
- o Parent support.
- o Relation of funding to delivery of services.

SELECTION OF SAMPLE SITES

We selected six LEAs with various sizes, locations, program types, and enrollments of Limited English Proficient (LEP) students. Because of the short time available for the study, we could not visit a nationally representative sample of school districts and included no districts located in the midwestern or eastern U.S. Further, since we wanted to learn as much as possible about the delivery and cost of bilingual pro-

grams, we visited no districts lacking any special services for LEP students.

To ensure the availability of relevant data, we chose districts from those nominated by Rand colleagues who were familiar with the districts' programs and characteristics. Before selecting a district for inclusion in the sample, we interviewed the bilingual education director over the telephone to obtain descriptions of the district's enrollment and special services for LEP students.

We visited LEAs in California, Texas, and Washington. The LEAs include two small rural districts, one medium suburban district, and three large urban districts as shown in Table 1. The bilingual programs in the sample sites serve speakers of Spanish as well as Chinese, Vietnamese, Japanese, Korean, Laotian, Samoan, Russian, and Filipino dialects. Enrollment ranges from fewer than 3000 students to more than 150,000.

Table 1

ENROLLMENT, TYPE, AND LANGUAGE GROUPS SERVED FOR SAMPLE LEAs

Enrollment	Type	Language Groups	Number of Districts
Under 5000	Rural	Spanish	2
10-50,000	Suburban	Spanish, Vietnamese	1
Over 50,000	Urban	Spanish, Vietnamese	1
Over 50,000	Urban	Spanish, Chinese, Filipino, Vietnamese, Korean, Samoan, Laotian, Japanese	1
Over 50,000	Urban	Spanish, Chinese, Filipino, Vietnamese, Japanese, Korean, Russian, Arabic	1

Table 2 shows the percentage of students in various ethnic categories in the sample LEAs. Four districts (A, C, E, and F) have significant black populations, ranging from 21 percent to 75 percent of the total enrollment. In these same LEAs Anglo enrollments are declining, so that minority enrollments are increasing proportionately. Three of the districts (A, C, and E) have large influxes of Indochinese refugees.

Although two small rural districts, B and D, have significant American Indian populations (15 percent and 25 percent of enrollment), they are not served by the bilingual program. The Indians in these LEAs object to having their language taught in school, since it ties closely to the tribal religion. The bilingual programs in Districts B and D serve Hispanics, most of whom are children of migrant workers.

Table 2

ETHNIC COMPOSITION OF STUDENTS AT SAMPLE SITES
(PERCENT)

District	White	Black	Hispanic	Asian & Pacific Islanders	American Indian & Other
A	19	26	16	30	9
B	40	0	30	5	25
C	60	21	4	12	3
D	40	1	43	1	15
E	27	45	26	2	0
F	4	75	20	1	0

DATA COLLECTION METHOD

District superintendents or bilingual program directors approved our visits. Once in the district, we first interviewed central office staff, including district superintendents, persons in the budget office, and administrators of bilingual programs. We also interviewed counselors, instructional consultants, and other support staff who work with language assistance programs, and collected budgets, school plans, and program descriptions to supplement interview data.

Rand staff drew a random sample of schools offering special services to language minorities. Then, we randomly selected at least one type of teacher to interview from among the types of teachers providing services at each of the schools selected, i.e., ESL, bilingual, resource, and classroom teachers. In addition to the teachers so selected, Rand staff also interviewed principals and aides at each school. During the principal interview, we obtained general information about the school. With teachers, we reviewed daily schedules and recorded their estimates of the number of minutes of instruction provided to LEP and non-LEP students. We also recorded the teachers' education and experience.

ORGANIZATION OF THE NOTE

This Note contains three sections in addition to this introduction. Section II describes the characteristics of language assistance services provided by the LEAs visited. Section III explains the methods used to analyze the added cost of these services and presents the results of this analysis. The final section summarizes our findings. The

instruments used to guide on-site interviews are presented in the appendixes.

II. PROGRAMS FOR LANGUAGE MINORITY STUDENTS AT SAMPLE SITES

In this section we discuss findings on the delivery of instruction to language minority students in the sample districts. Also included are findings on procedures for identification and assessment of language minority students, criteria for student exit from bilingual programs, characteristics of teachers for language minority students, and participation by parents of LEP students in bilingual program decisionmaking.

IDENTIFICATION AND ASSESSMENT PROCEDURES

The home language assessment determines whether a student needs language assistance services or can function in a monolingual English classroom. This assessment typically includes three steps:

- A home language survey.
- A teacher's language assessment.
- An English proficiency test.

Parents usually complete a home language survey form when registering the child at school. The survey, available in the major non-English languages spoken in the district, records the student's first, social, and family languages. Appendix B displays a home language survey used in one of the LEAs we visited. In some districts, teachers also formally assess how well the student understands, reads, writes, and pronounces English.

Typically, districts administer an oral English proficiency exam, such as the commercially produced LAS (Language Assessment Scale) to

limited- and non-English speakers. An aide, a specially trained teacher, or a "language assessor" administers the test. It measures sentence comprehension and vocabulary and includes a writing sample for upper grade students. For Spanish speakers, the sample districts use Spanish proficiency achievement tests such as the LAS and CTBS-Espanol. Because of a shortage of materials, Asian and Pacific Island students usually have no tests beyond the English proficiency exam.

Secondary students with some knowledge of English are given a special math test or the district's achievement test. Further testing and assessment may be conducted by the school. Schools in older, more established programs may have their own tests in English and primary (non-English) languages for students enrolled there.

Problems Related to Language Assessment

School district staff expressed great frustration at their inability to test a student's proficiency or to administer achievement tests in primary languages other than Spanish. One district has developed reading tests for secondary Vietnamese, Filipino, Chinese, and Spanish students. Another district is developing an achievement test battery in Filipino dialects, Vietnamese and Korean, as part of its Title VII grant. However, lack of coordination has apparently prevented sharing of testing and other information between districts serving similar language groups.

Persons we interviewed criticized the commercially produced English proficiency scales as not being sensitive enough at the lower and upper ranges; i.e., the test does not distinguish accurately among levels of

English proficiency at the extremes.

Staff members cited more practical problems with the English proficiency tests, namely, tape recordings of poor quality or lack of test administrators who can pronounce English properly. A bilingual staff member's heavily accented English may interfere with the student's test performance.

In one district, both Hispanic and Anglo parents objected to the home language survey. Both groups felt their "Americanness" was challenged by questions asked in the survey.

Exit Criteria

Three of the districts we visited are grappling with the issue of criteria for student exit from bilingual programs. Presently, teacher judgment of student readiness to exit the program is relied on most heavily. In the two larger districts, which must cope with a continuous influx of LEP students, staff members find it particularly difficult to identify students for exit from the bilingual programs because individual students are not tracked through the programs.

There are different perspectives on bilingual education in the districts we visited that affect staff attitudes toward exit criteria. One view supports primary language maintenance, which implies a long term stay in the program. The other favors English immersion, which implies eventual exit. Members of these two groups are currently discussing the reclassification of LEP students. Issues under discussion include expectations of performance on the district's achievement test, development of an improved oral language proficiency test, requirements for a

writing sample, and better procedures for assessing primary language proficiency.

Several of the districts are in states whose guidelines specify that students can be in bilingual programs for a maximum of two to three years. Even so, none of the districts we visited adhere to a formal policy on the maximum number of years of instruction a student receives prior to exiting from the program.

District exit criteria are often overridden by the availability of programs. For example, a district's formal policy may be to provide part-time, refresher, ESL instruction for students who have become proficient enough in English to function in an English-speaking class. In reality, however, these services may not be available at all schools. Moreover, some schools may have so many LEP students that there are no monolingual English classrooms. In this kind of school, a student may not have the option of exiting. Even after becoming proficient in English, the student may have to remain in a bilingual, self-contained classroom where he or she provides the English role-model for his or her peers. Finally, LEP students may exit the bilingual program willy nilly when they enter secondary school. In most of our sample LEAs, few language assistance services are available to LEP students at the secondary level.

INSTRUCTION FOR LEP STUDENTS

Curriculum

In the sample districts, subjects available to LEP students include English as a Second Language (ESL), formal instruction about the primary, non-English language, and instruction in the district's typical curriculum. Instruction is given in English, bilingually, or in English with bilingual support. We discuss these terms in detail below:

English as a Second Language (ESL) is instruction about English for limited- and non-English speakers. It focuses on oral language development, introduction to reading, writing and reading improvement, and English vocabulary. Courses are usually taught by monolingual English speakers.

Instruction About a Non-English Language is formal instruction about Chinese, Spanish, or other primary languages dealt with in the districts' bilingual programs. Bilingual teachers usually teach these courses.

Academics includes such subjects as math, science, language arts, social studies, and health. These subjects may be taught bilingually, in English with bilingual support, or in English only.

Other subjects include music, art, physical education, class opening and closing periods, typing, and so on. Although these subjects may be taught bilingually or in English with bilingual support, they are usually taught in English only.

Bilingual Instruction is delivered in a number of ways in the sample districts. The classroom teacher may teach a concept in English and

repeat the instruction in the primary language (or vice versa). Or, instruction may be conducted entirely in English for one class period and in the primary language for another class period. Or a teacher may conduct a class entirely in English for half of the week, and in the primary language for the rest of the week.

Bilingual instruction may be provided in either a self-contained classroom or in a pull-out program.

Bilingual Support is provided by bilingual aides or teachers under the direction of a classroom teacher. These people use the students' primary language to help them with concepts presented in English; they confer with the classroom teacher to determine the students' greatest need.

In some settings, bilingual support is provided on a pull-out basis. In others, a bilingual aide or the classroom teacher provide bilingual support within the classroom. This is done by grouping students according to English ability. After ideas are presented in English, the teacher (if able) or the aide explain the ideas to groups of non- or limited-English speakers in the students' primary language.

Monolingual English instruction is delivered using only the English language.

The Organization of Instruction

Districts use several arrangements to deliver instruction to language minority students. Included are self-contained classes, part-time, pull-out programs, and Newcomer Centers. Each is discussed in detail shortly.

A number of factors affect the type of arrangement used to in our sample LEAs. Among these are staff availability and the size and concentration of students in a given language group. Faced with shortages of staff able to teach in a certain language or with small concentrations of students with a certain language, districts are likely to use part-time, pull-out instruction. In some districts, students whose English is most severely limited are more likely to be placed in self-contained classes that provide bilingual instruction; students with some English proficiency are more likely to receive part-time language assistance. Districts with declining enrollments and changing ethnic compositions are more likely to use part-time, pull-out programs to provide services to LEP students as a way of responding to the demand for bilingual teachers without reducing existing staff, which is largely monolingual English speaking.

Methodology. The short time available for the study prohibited much classroom observation. Instead, we conducted extensive interviews with school staffs to obtain descriptions of both the organization and content of instruction for LEP students. We reviewed daily class schedules and recorded the number of minutes per day during which LEP students receive instruction in various subjects. We also noted whether instruction is delivered in English, bilingually, or with bilingual support. Appendix A presents our teacher and principal interview guides.

From these data, we calculated the percentage of the instructional day during which LEP students received instruction in various subjects when different language modes and instructional organization were used. We recognize that teacher self-reports may not be as reliable as we

would like. However, our findings are consistent among the LEAs and are intuitively reasonable, as the discussion to follow demonstrates.

Bilingual, Self-Contained Classes. These are usually found at elementary schools (K-6) in our sample. Such a class is conducted by a bilingual, biliterate teacher, who is a member of the teaching staff. Both ESL and formal instruction about the non-English language are provided in these classrooms.

Instruction is given bilingually, or with bilingual support. That is, the teacher either delivers instruction in two languages, or she/he or a bilingual instructional aide clarifies concepts in the students' primary language after instruction is delivered in English.

Both LEP and non-LEP students are usually enrolled in self-contained, bilingual classes. The district's ability to integrate students in these classes depends on district enrollment trends and the non-English language of the bilingual class. The shortage of Anglo students forced some districts to integrate LEP students with other minority students who were supposed to provide the English role model for their LEP peers.

Further, bilingual program staffs indicated that some classes are easier to integrate than others because Anglo students may be more interested in learning one language than another. For instance, in district A, Tagalog and Japanese bilingual classes were much more difficult to integrate with Anglo students than Chinese or Spanish classes.

Bilingual, self-contained classes at the elementary level are available in 5 of the districts we visited. The policy of District C is to serve language minorities with other approaches than self-contained classes.

As Table 3 illustrates, self-contained classroom programs in the districts studied share a number of similarities. Students in self-contained classes receive approximately one period per day of formal instruction about their primary language (instruction about Chinese, Spanish, Japanese, etc.). Further, they also receive one period of formal ESL instruction in addition to other English language arts instruction (spelling, reading, handwriting) during the day.

We found that the bulk of bilingual instruction deals with academic subjects. Total instruction delivered bilingually varies from 23 percent of the day in District F (instruction in academics only) to 71 percent of the day in District E (48 percent for academics, 23 percent for other subjects). Subjects taught with bilingual support may supplement

Table 3

SELF-CONTAINED CLASSES FOR LEP STUDENTS, ELEMENTARY LEVEL

PERCENT INSTRUCTIONAL TIME

			Academics			Other		
District	ESL	Primary Lang.	Bil.	Mono. Engl.	Engl. Bil. Supt.	Bil.	Mono. Engl.	Engl. Bil. Supt.
A	14	15	28	6	18	0	19	0
B	8	16	51	0	8	17	0	0
C*	--	--	--	--	--	--	--	--
D	8	9	20	14	20	18	4	7
E	19	10	48	0	0	23	0	0
F	19	23	23	13	10	0	12	0

*Mode not available.

the bilingual instruction a student receives in self-contained classes. Bilingual support often takes the form of tutorial assistance or clarification of classroom content in the student's own language. Bilingual support is also usually provided for instruction in academic subjects and ranges from 8 percent of the instructional day in District B to 20 percent in District D.

In the sample districts, more self-contained classes are provided for Spanish-speaking students than for those from other primary language groups because there is an even greater shortage of bilingual personnel who speak other languages than Spanish.

Bilingual Team Teaching. Districts A, B, and D use this option to compensate for a shortage of fully trained bilingual teachers, usually for elementary students. Students are grouped in the classrooom according to English and primary language ability. During ESL or primary language instruction the teacher may exchange groups of children with another member of the teaching staff. The schedules of children involved in team teaching programs appear similar to those in bilingual self-contained classes.

Pull-out Programs. LEP students in this program option are placed in a class conducted by an English-speaking classroom teacher who is not necessarily bilingual or biliterate in the students' language. Usually both LEP and non-LEP students are enrolled in the class. Children needing ESL or bilingual support in academics are removed from class ("pulled out") for part of the day and taught by specially designated staff. Students in this type of program receive little or no instruction about their primary language either in class or during pull-out, as

shown in Table 4. The bulk of their time is spent in a monolingual English class. In the five districts for which we have information about this option, LEP students received between 18 percent and 85 percent of their instruction entirely in English.

In general, students receiving language assistance instruction on a pull-out basis receive much less instruction of this type than students served in self-contained classes. Instruction delivered bilingually to students in part-time programs ranges from 0 percent of their day in Districts A and F to 47 percent in District D (9 percent in primary language instruction, 20 percent in academic subjects, and 18 percent in other subjects). Bilingual support in pull-out programs ranges from 0 percent of the students' day in Districts C, E, and F to 27 percent in District D.

Table 4

PART-TIME OR PULLOUT PROGRAMS, ELEMENTARY LEVEL

PERCENT INSTRUCTIONAL TIME

			Academics			Other		
District	ESL	Primary Lang.	Bil.	Mono. Engl.	Engl. Bil. Supt.	Bil.	Mono. Engl.	Engl. Bil. Supt.
A	7	0	0	51	22	0	20	0
B*	--	--	--	--	--	--	--	--
C	10	0	5	67	0	0	18	0
D	8	9	20	14	20	18	4	7
E	15	17	0	54	0	0	14	0
F	15	0	0	59	0	0	26	0

*Information on this delivery mode was not available.

In the five districts for which we obtained information on pull-out services, ESL instruction is provided during 7 to 15 percent of the students' day. In three of these LEAs, formal ESL instruction amounts to less than 10 percent of the students' day. In District E, students receive instruction about their primary language during 17 percent of the day. This is not typical of the other districts in the sample.[1]

Pull-out instruction is used for formal instruction about a primary language or for bilingual instruction in academic subjects, but most often it is used in our districts to teach ESL.

Students who speak relatively rare languages for which there is a shortage of bilingual teachers tend to be served by pull-out programs, as are students who are not represented in sufficiently large numbers in a particular school or district to warrant conducting a self-contained class. Though serving Hispanic students in their bilingual programs, Districts B and D, two small rural districts, also resorted to the use of pull-out to compensate for the difficulty of recruiting teachers. Students may also be served by pull-out programs because their parents have chosen not to place them in self-contained, bilingual classes.

Pull-out programs enable the districts to get more mileage out of their bilingual staffs. These programs permit teachers to serve larger numbers of students by providing each student with less instructional time than he or she would receive in a self-contained classroom.

Newcomer Centers. Districts A and C provide Newcomer Centers to cope with an influx of LEP students who are recent immigrants to the

[1]Table 4 shows averages across all students. Actually, elementary students in District E in pull-out groups receive either ESL or instruction about their primary language, but not both.

U.S. and who are judged to be two or more years below grade level. Classes are composed entirely of "newcomers." For this reason, as well as because of fiscal limitations, students must leave these programs after one or two semesters. Upon exiting the Newcomer program, students may remain in the bilingual program or move into the regular classroom.

District A has set aside three elementary schools as full-time Newcomer Centers for Chinese, Spanish-speaking, and Filipino students. Newcomer High School, grades 9-12, accommodates secondary students from a variety of language groups. These schools serve about 15 percent of the district's LEP students.

Because the program is intended to enable students to function in English speaking schools and classrooms as quickly as possible, it emphasizes immersion in the English language and U.S. culture. In addition, Newcomer Centers refer students and their families to health and other community agencies.

We randomly chose to visit the elementary Spanish Newcomer Center in District A. As indicated in Figure 1, the program provides instruction in ESL and basic skills but no formal instruction about Spanish. Formal ESL is taught during approximately 23 percent of the student's day. Classroom instruction is supplemented by visits to a language lab. The rest of the student's day is spent in instruction in basic skills and social studies in programs especially designed for newcomers.

Teachers in this Newcomer Center said that they try to teach in English, and use Spanish as needed to convey ideas the student may have missed. Approximately 60 percent of the student's basic skills instruction is delivered in English with bilingual support. About 17 percent

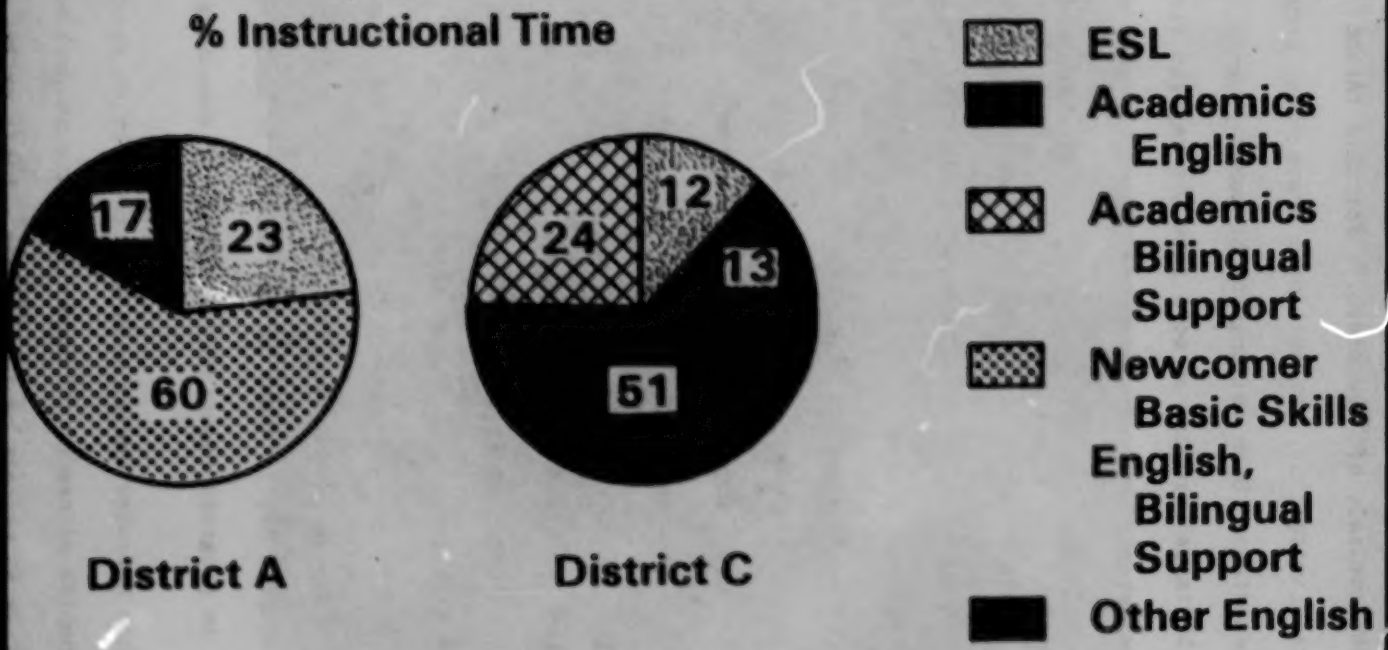

Fig. 1—Newcomer Centers (Elementary Level)

of the student's day is spent receiving English-language instruction in "other" subjects. We will discuss the elementary Newcomer Centers in District C shortly.

As Figure 2 indicates, students at Newcomer High School in District A usually receive intense ESL instruction-- an average of 46 percent of daily instructional time. Approximately 30 percent of daily instruction is delivered bilingually or with bilingual support by teachers who are bilingual in English and, for instance, Cantonese, Tagalog, or Spanish.

The Newcomer Centers in District C are part-time programs for both elementary and secondary students, who spend one-third to one-half of their school day in special classes designated for newcomers (Figures 1 and 2). About 32 percent of the district's LEP students are served in these centers. Elementary Newcomer Center classes include one period of ESL and two of basic skills instruction, delivered with bilingual support. At the secondary level, approximately 66 percent of the student's instruction is delivered in English because he or she is mainstreamed into a regular secondary school program. Half of that time is spent in classes not requiring a high degree of English comprehension --arts, crafts, physical education, or shop, for instance.

Because of its part-time nature, District C's program is less intensive than District A's. Program staff indicated that because there are insufficient spaces to accommodate all newcomers, some of these students are placed in regular high school programs, at best receiving some ESL and tutorial assistance.

The shortage of trained personnel also affects services to newcomers. In District C, one part-time Newcomer Center for Laotian students

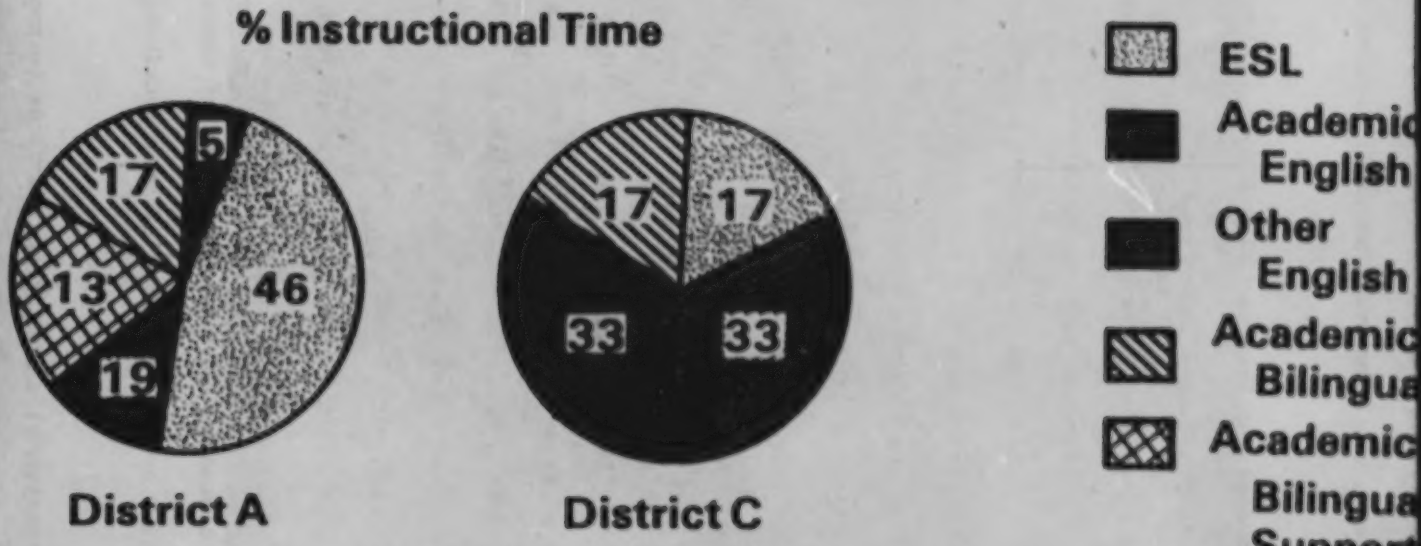

Fig. 2—Newcomer Centers (Secondary Level)

was headed by a bilingual teacher whose languages were English, Spanish, and Filipino. He communicated with his students in English. The other person staffing the center was also bilingual, but in Tagalog and English. A third teacher was a monolingual English speaker. A Laotian tutor provided some translating for the students.

Services to Secondary School LEP Students. We found secondary LEP students to be less evenly, and less well-served, than those enrolled in primary schools in our sample. As shown in Table 5, we observed large variations in the amount of bilingual instruction available to LEP students, ranging from none to 38 percent of instructional time. Special academic courses for LEP students are essentially unavailable in three districts.

Table 5

LANGUAGE ASSISTANCE SERVICES, SECONDARY LEVEL

PERCENT INSTRUCTIONAL TIME

			Academics			Other		
District	ESL	Primary Lang.	Bil.	Mono. Engl.	Engl. Bil. Supt.	Bil.	Mono. Engl.	Engl. Bil. Supt.
A	25	0	38	17	0	0	20	0
B	17	0	5	78	0	0	0	0
C	17	0	33	17	0	0	33	0
D	NA*	--	--	--	--	--	--	--
E	17	0	3	40	0	0	40	0
F	17	3	0	63	0	0	17	0

*NA: Time was not adequate to obtain data on this program.

ESL instruction is available at the secondary level in all six districts. ESL courses usually substitute for typical English or language arts classes, and account for 17 percent to 25 percent of the students' daily instructional time.

As Table 5 indicates, we found little formal instruction about a student's primary language. In District F, for instance, formal instruction about Spanish is provided for one class period per week, on the average; in four districts, students receive no instruction about their primary language.

Teachers in secondary schools described special problems in serving their LEP students. Staff frequently indicated that it is difficult to assemble a full class of students speaking a common language. This is a problem even in Districts A and C, which serve heterogeneous enrollments including large numbers of students from Spanish as well as Asian language groups. The need to disperse students for racial and ethnic integration aggravates this problem. Staff teaching a diverse group of LEP students gear their courses to an ESL, instead of a bilingual, approach.

The need to serve a variety of students produces some innovative approaches. We observed a science class taught by a monolingual English teacher to students from a variety of language groups, including Vietnamese, Chinese, Filipino. Each group of students sat around an instructional aide who spoke their language. The classroom teacher presented the core ideas of the lesson in English, and the aides translated the idea into their group's native language.

A bilingual math class in District A was taught by a teacher fluent in Cantonese (Chinese) and English. His students included Chinese, Vietnamese, and other Southeast Asians. The teacher indicated he taught most of the lesson in English and occasionally used Cantonese to explain certain concepts. Students in the class who were fluent both in Cantonese and Vietnamese translated as necessary for their peers who understood only Vietnamese.

TEACHER CHARACTERISTICS

In our analysis of staff characteristics, we separated the teachers we interviewed into regular classroom teachers (who teach monolingual English-speaking classes), bilingual and Newcomer Center teachers, and ESL teachers. We found that teachers who work with LEP students are generally less experienced than regular classroom teachers, as shown in Table 6. In our sample districts, regular classroom teachers have taught for an average of 15 years, compared with 8.5 years for bilingual classroom teachers and those in Newcomer Centers. Teachers of ESL are somewhat more experienced, having taught for 12 years, on an average. We hypothesize that ESL teachers are drawn from the pool of excess teachers in the sample districts.

The less experienced teachers in bilingual classrooms and Newcomer Centers have a higher percentage of Master's Degrees than do the other teachers in our sample. This is probably primarily a reflection of the recency of requirements for Master's Degrees for teaching positions.

As one would expect, more teachers in bilingual classrooms and Newcomer Centers hold bilingual teaching certificates and are fluent in

Table 6

TEACHER CHARACTERISTICS

Teacher Assignment	No.	% with Master's Degree	Ave. Years Experience	% Fluent in Tgt. Langs.	% w/ Bil. Teaching Certif.
Bilingual Classroom or Newcomer Center	62	42	8.5	79	54
ESL Instruction	34	27	12	50	5
Regular Classroom	39	20	15	14	19

the target language. On the other hand, nearly a fifth of the regular classroom teachers we interviewed said that they have bilingual teaching certificates. This implies that there is an appreciable population of teachers qualified to provide bilingual services who are not doing so as part of their district's formal program.

A surprisingly high percentage of ESL teachers report that they are fluent in the target language. These teachers often have dual responsibilities as bilingual and ESL teachers in pull-out programs.

PARENT INVOLVEMENT

Mechanisms for Parent Participation

School personnel in our sample districts report that parents of LEP students do not play strong roles in directing bilingual education

policy, and, though formal mechanisms for parent participation exist, they are not often used.

Such mechanisms include parent liaison workers who form a link between school and home. This is a bilingual person whose responsibilities include translating school documents, interpreting between school staff and parents, and aiding with the home language survey.

Some state laws require School Advisory Committees when a school enrolls more than a certain number of students speaking a common primary language. (For instance, in California a school advisory committee must be established if more than 21 language minority students are enrolled.) Formally, the school advisory committee is charged with advising the principal and staff on numerous matters, including (1) the school level master plan for bilingual education, (2) the development of the school needs assessment, and (3) the conduct of the language census.

In the districts we visited, there is usually also a District-Wide Committee on Bilingual Education, composed of representatives of the district's language groups. Some of these committees sponsor classes and workshops for parents on ESL, health, naturalization and immigration, and other areas of interest to them.

Characteristics of Language Minority Parents

District staffs explained the parents' low level of involvement in decisionmaking in a number of ways. Though different kinds of parents have children who need bilingual education, many are new arrivals in the United States and unfamiliar with the American concept of parent participation in school-related decisionmaking. In some of the sample dis-

tricts, some parents are undocumented workers, afraid to get too close to governmental institutions, including the school. Finally, staffs stated that in many instances both parents work and do not have time for much participation in school affairs.

Parents' Feelings Toward Bilingual Education

Staff members described parents as having varied feelings toward bilingual education. In general, all parents of LEP students were described as very interested in having their children learn English.

School staffs perceived Asian parents as less interested in primary culture and language maintenance than Hispanic parents. Chinese parents in Districts A and C often send their children to privately run Chinese language and culture programs after school and see less need for primary language programs in the schools than do some other groups.

Vietnamese school personnel in District C indicated that newly arrived Vietnamese parents are interested in English immersion programs. However, in the next five years, their children will probably become accustomed to the United States and begin to lose their primary culture and language. At this point, the parents may become interested in the schools' maintenance of Vietnamese language and culture.

RELATION OF FUNDING TO SERVICE DELIVERY

The ED would like to know what services to LEP students are provided by federal, state, and local funds and, in the case of federal funds, what services are provided by Title VII, Emergency School Assistance Act, Bilingual, Title I-Migrant, or other categorical programs.

Ideally, the ED would like to know what resources, in the sense discussed earlier, are supported by different funding sources, since ED would like to ensure that funds are spent for what they were originally intended. Therefore, we gathered information on funding by source and attempted to relate funding to resources.

Sources of Funds

In the LEAs we visited, federal funds explicitly identified for support of bilingual programs are provided under Title VII, Title I-Migrant, Title XIII-C (Indochinese), and ESAA bilingual. In general, these funds support the following types of resources:

- Additional teachers who either visit self-contained classrooms, remove students from self-contained classrooms for part-time instruction, or provide support functions, such as testing and staff development to teachers and students in self-contained classrooms.

- Paraprofessionals who either assist classroom teachers, provide clerical support to school administrators, work as home visitors, or provide health services to students.

- Other staff development activities, such as reimbursment to teachers for attendance at in-service training sessions.

- Development and purchase of materials and equipment for instruction, staff development, or program administration.

- Parent involvement and education activities

- Administration, evaluation, and other support functions.

We also found, however, that resources provided under such federal programs as ESEA Title I (Compensatory Education) are used to support remedial instruction in English reading for LEP students or to place bilingual aides in the classroom. Less often, funds earmarked for bilingual services are used to provide services to "Title I" students or to the general student population.

State funds supporting bilingual programs may be especially earmarked for this purpose or may come from general state support for education. Earmarked state funds are usually to be used in ways similar to those for use of federal funds.

Noncategorical state funds and local funds provide the full range of bilingual education services, including those delivered in self-contained classrooms. Thus, the main difference in resources purchased from different funding sources is that teachers in self-contained classrooms are not paid from categorical programs. This is largely a consequence of the requirement in Title VII that federal funds be used to purchase additional services to LEP students, that is, that these services supplement (rather than supplant) the services that would have been provided these students if they had not been LEP.

Application of Funds to Service Delivery at the School Level

LEA administrators use available resources to provide services to students to fill what they perceive to be the students' needs. However, there are several reasons why it is difficult to tailor resources precisely to student needs:

- The precise composition of the student population may not be known at the time when resources are being obtained.

- Administrators may not know precisely how well particular resources, such as personnel and materials, will meet particular student needs.

- People, the most important resources, are not easily fragmented among widely varying duties.

- The needs of individual students may change during the school year.

Thus, administrators would prefer to be able to use instructional resources, particularly personnel, in varying ways as needs arise. Because of this, we were not surprised to find that funds from different sources are used to obtain resources that serve different categories of students. We were surprised, however, to find implicit recognition of the practice in official budgetary documentation. This occurred in a number of the school plans for consolidated programs submitted to the California State Department of Education. These plans provide justification for the schools' and LEA's applications for funds under the state's School Improvement program (SI), State Compensatory Education program (SCE), Economic Impact Aid for Limited English Speaking and Non-English Speaking students (EIA LES/NES), Federal Compensatory Education (Title I), and some other federal and state categorical programs.

Below we display information drawn from one of these plans.[2] As the table indicates, the school in question was seeking additional funds to support 14 instructional aides; each of these aides works six hours a

[2]The relevant pages from the plan are reproduced in Appendix C.

SCHOOL REQUEST FOR FUNDING FOR INSTRUCTIONAL AIDES

Item of Expenditure	Funding Source	Page of Plan
14 Instructional Aides funded 1 hour	SI	1
14 Instructional Aides funded 1 hour	SCE	3
14 Instructional Aides funded 1 hour	EIA LES/NES	5
14 Instructional Aides funded 3 hours	Title I	7

day. Note that rather than requesting that, say, 2 of the 14 aides be funded entirely by the SI program, the school requested that one hour of the time of each of the 14 aides be funded by this program. Funding for the remainder of the aides' time was split among the SCE program, EIA LES/NES, and Title I.

Why would the school go to the trouble to complicate the budget request in this way? One possibility is that by so doing the school would be less constrained in the way the aides are used because none would be identified as an aide for a particular type of student. Such a stratagem may reflect the need for flexibility in the use of resources more than a desire to frustrate compliance monitors.

Thus, we believe that although the desire of those who administer categorical programs to relate funds to particular services is both laudable and understandable, in many cases such an accounting may be more misleading than informative. The most valuable school resources are teachers and other trained personnel. Such people can provide services of different sorts to different students, and it is probably both unrealistic and inefficient to insist that they not do so.

Funding Level and Provision of Language Assistance Services

Even though there was not an exact relation between funding source and delivery of language assistance services, the level of funding (from all sources) seemed to be related to the percentage of the target population served. In particular, we observed that the two smallest LEAs in our sample do not serve all LEP students; what services they do provide have been sharply curtailed by reductions in funding from particular sources. The medium-sized LEA is also having difficulty providing full services to LEP students in schools not in the Title VII program.

III. ADDED COST OF PROGRAMS AT SAMPLE SITES

In past work the added cost of bilingual programs has been taken to be the cost of resources that would be purchased with categorical funds to provide services to LEP students, and the added cost-per-student has been taken to be the total cost of added resources divided by the number of LEP students. This procedure may not estimate economic cost because it may not adequately measure added resources delivered to LEP students.

First, the added cost of resources required in a real situation may be different from the cost of resources added under a categorical program. In most of the LEAs we visited, for example, teachers in self-contained classrooms are less expensive than teachers in monolingual English classrooms because they are less experienced. (Refer to Table 6.) Therefore, the cost of additional resources, e.g., instructional aides, is offset somewhat by the lower teacher salary, and the economic cost is less than the cost of the aide.

The approach used in previous work also does not measure resources delivered to LEP students because the cost-per-student has been computed based only on the number of LEP students. If non-LEP students benefit directly or indirectly from the resources added for the LEP students, this procedure inflates the added cost per LEP student. We discuss this point in more detail below.

PROCEDURES FOR COMPUTING ADDED COST

Previous studies of the cost of bilingual programs have been designed to determine the amount of additional funding that would be

required to support establishment or expansion of such programs. This objective is different from ours. Categorical funding usually purchases designated resources, whereas we want to measure the total added cost, regardless of the nature of resources used or the sources of funds required to purchase them. Because our approach has not been followed in past studies, we describe it in some detail.

Procedures for computing added cost have been developed by several authors.[1] In their terminology, bilingual education is an example of joint production because the same set of resources is often used jointly to produce education for both LEP and monolingual English students. For example, the addition of an instructional aide to a classroom changes the mix of resources delivered to all students in that classroom, not just to the LEP students. In some classrooms, the aide may work mainly with the LEP students, thereby giving the teacher more time for the non-LEP students. Alternatively, the aide may work with only a subset of the LEP students for most of the day or both teacher and aide may work with the whole class simultaneously. We saw wide variations in use of aides during our site visits. Even time-and-motion studies would not tell us precisely how to apportion teachers and aides among non-LEP and LEP students because the interactions between teachers and aides often affect both categories of student simultaneously. Therefore, the only defensible approach for us to take is to spread the added cost of the aide over all of the students in the classroom.

The funding approach may also yield misleading results when per-student costs are extrapolated to other situations. Suppose, for

[1]See, for example, Fisher, 1970, p. 193.

example, that an aide is added to a class of 30 students that has 15 LEP students. Should two aides be added to a class of 30 students that has 30 LEP students? If we were to compute the added cost-per-student in the first case on the basis of only the 15 LEP students, the answer would be, "Yes," whereas there is no a priori reason why two aides would be needed in the second case.[2]

Beyond the classroom, most educational services, such as central administration, support instructional services for all of the students in the district, regardless of their membership in special populations. Therefore, to be strictly correct we should estimate the added cost-per-student of bilingual education as follows:

1. Estimate the total cost of education, including the bilingual program, for LEP and non-LEP students, taken together.

2. Divide the total cost by the sum of LEP and non-LEP students to obtain a cost-per-student.

3. Estimate what the total cost of education would be for the same number of students without the bilingual program (the "baseline" cost).

4. Divide the baseline cost by the number of students.

5. Subtract the cost-per-student obtained in step 4 from the cost-per-student obtained in Step 2.

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[2]The dilemma actually arises from use of cost-per-student to measure the value of resources delivered on the basis of classrooms, rather than students. Use of a per-classroom cost would avoid the problem entirely while permitting variations in LEP-non-LEP mix within the classroom.

The problem with this formulation is that we cannot do step 3 from empirical information, i.e., we cannot establish what would be the total cost of education at the sample site without the bilingual program because we cannot match any of our sites with a site that is the same except that there is no bilingual program. Even a comparison of the situation at a given site before and after the bilingual program would run the risk of being confounded by other changes such as declining enrollment or implementation of other new programs. The absence of a bonafide baseline cost poses an especially important problem in two areas-- determination of the average teacher salary and of the average class size for instruction without the bilingual program. We explain how we handled each of these problems shortly.

ESTABLISHING TOTAL COST

To establish the total cost of bilingual programs, we conducted the cost analysis in five steps, each of which is discussed more fully below:

1. Define the functions to be costed.
2. Determine how these functions are performed by the sample LEAs.
3. Identify resource requirements by function in the sample LEAs.
4. Estimate resource costs by function in the sample LEAs.
5. Estimate added costs of bilingual education in the sample LEAs.

The functions important to delivery of bilingual education are:

- Instruction: bilingual instruction or bilingual support in academic subjects, instruction about the student's primary language, ESL instruction, development and purchase of instructional materials and equipment, other instructional activities (e.g., field trips).
- Student identification and assessment for program placement.
- Staff development.
- Program administration.
- Other support activities, e.g., parent involvement, student counselling.

We carried out the full analysis described above for instruction because of its importance in education. We also examined identification and assessment, staff development, and program administration in as much detail as time allowed. Although development of instructional materials and other activities such as parent involvement are also important, in the sample LEAs they were of minor scope compared with those on which we concentrated. Therefore, we largely relied on budgetary figures to obtain estimates of the costs of these functions. Because we used different approaches to estimate the cost of different functions, we discuss analytic details separately in the next two sections.

ADDED COST OF INSTRUCTION

The cost of instruction is largely the cost of instructional personnel. Therefore, we concentrated on establishing this cost, and what

follows focuses on how we did this. We discuss how we established the cost of instructional materials, the other major component of the added cost of instruction, at the end of this section.

To obtain sufficient data on instructional personnel for cost analysis, we visited as many schools as possible in each LEA. This was necessary because LEA specifications for use of instructional personnel are too general for cost analysis and because the details of personnel use may vary widely among the schools in each LEA.

At each school we obtained information on:

1. Total enrollment and LEP enrollment.

2. The total number of classrooms and the number of bilingual program classrooms.

3. The total number of students and the number of LEP students enrolled in bilingual program classrooms.

4. The number of instructional aides provided for LEP students, whether or not they are in bilingual program classrooms.

5. The number of pull-out teachers providing part-time instruction for the bilingual program.

6. The total number of LEP students each pull-out teacher teaches, the number of students in each pull-out group, and the length of time each group is taught.

7. Typical schedules for non-LEP and LEP students at the secondary level.

8. The number of periods bilingual program teachers teach at the secondary level and the number of students in each class period.

These data permitted us to determine how many of what types of instructional personnel in the bilingual program are provided to how many LEP students and to how many non-LEP students, in cases in which non-LEP students are instructed by the same personnel as LEP students. These data also permitted us to compute average class size at the schools visited.

We did not include instructional personnel who provide remedial reading or math to underachieving students, even though many LEP students participate in such programs, because these programs arise for other reasons than that the students are LEP. Because of the tendency of school administrators to assign personnel "across the boundaries" of categorical programs, as described in the preceding section, we based our judgments about whether a person should be excluded on what that person was doing, rather than on the source of funds to support that person.

Table 7 summarizes the use of instructional personnel in the sample LEAs. Recall that District C provides no self-contained classrooms for the bilingual program, whereas the majority of LEP students in all other districts but B are in such classrooms. Note also that Districts A, B, and F have essentially one aide per self-contained classroom, whereas District E has very few.

To compute the total cost of instructional personnel for LEP and non-LEP students, we needed unit costs, that is the average salaries (plus fringe) for various types of teachers and aides. We obtained LEA-wide averages for teacher and aide salaries, plus fringe, from LEA budget or personnel offices. In most LEAs we estimated average salaries

Table 7

USE OF INSTRUCTIONAL PERSONNEL FOR LEP STUDENTS

District	Self-Contained Classrooms				Pull-out Classes			Total
	Tchrs	Av Aides/ Classroom	Students LEP	Students Total	Tchrs	Students LEP	Students Total	LEP Stdnts
A	266	0.9	6400	8300	115	4300	4300	9900*
B	3	1.0	77	100	7	240	270	310*
C	0	--	--	--	77	2500	2500	2500
D	16**	0.5	220	420	4	150	280	280*
E	280	0.2	8500	8500	69	3000	3000	11500
F	63	1.0	1300	1900	6	140	140	1300*

*Some students in pull-out classes are also in bilingual classrooms.
**Team teaching.

for bilingual, ESL, and resource teachers from data gathered during our teacher interviews. In these, we obtained information on teacher education and experience which, together with the teacher salary schedule, permitted us to compute average teacher salaries by type.

One LEA, however, provided a listing of all bilingual and ESL teacher salaries from which we computed the required averages. We compared the average salaries of the teachers we interviewed with these district-wide averages. The average salaries of our interviewees were within 5 percent of the district-wide averages for three of the six categories of teachers we interviewed. In each of the remaining three categories, we interviewed fewer than five teachers; their salaries were higher than average. To minimize bias in teacher salary estimates, we used only two teacher groupings in the other LEAs so that we would have

as many teachers as possible in each group.

From this information, we first computed the total cost of instructional personnel per LEP student by multiplying the unit cost of instructional personnel of each type by the number of personnel of each type and then divided by the total number of students to whom the instructional personnel are provided.

To determine the added cost of instructional personnel per LEP student, we then needed to subtract what would be the cost-per-student of instructional personnel without the bilingual program from the total cost per LEP student. Since the former figure was not available, we devised special strategies to estimate it.

Estimating the Cost of Instructional Personnel with No Bilingual Program

To estimate what the per-student cost of instructional personnel would have been without a bilingual program, we had to estimate the average teacher salary and the average class size without the program. We assumed that the average teacher salary is simply the district-wide average. Of course, this figure includes the salaries of teachers in the bilingual program who, we found, are generally lower-paid because they have been hired more recently and have fewer years of teaching experience. Although at several of our sites the number of bilingual classroom teachers is small relative to the total number of teachers, removing their salaries from the computation of the average would have raised the average somewhat. To use this higher average, we would have to assume that younger teachers would not have been hired in the same numbers without the bilingual program. Although we have no reason to

make such an assumption, we display the results of adopting it in one of the examples to follow.

We also had to make several assumptions to estimate what the average class size would be without the program. The first difficulty arose in trying to determine the average class size for the district as a whole from district data. District figures on the total number of teachers at various levels include all teachers, e.g., music teachers, physical education teachers, and special education teachers, with the result that apparent class sizes are low.

Therefore, we estimated average class sizes from data we gathered at each school. We found class sizes to vary significantly among the schools we visited, and we had to decide when to use the class size in a given school and when to use the average of all schools we visited.

Let us consider first the computation appropriate to determining the added cost of teachers for LEP students in a self-contained classroom or, at the secondary level, in a period of language assistance instruction. For this case we used the average class size in the given school because we found that the number of students in bilingual program classrooms in a given school was usually closer to the class size in that school than it was to the average class size in all of the schools we visited in the LEA. Thus, the bilingual program classroom teacher appeared simply to replace a monolingual English classroom teacher in that school, and we took the comparable class size without the bilingual program to be the class size in that school.

To have used the average class size in the LEA to compute the per-student cost without the bilingual program would have attributed the

cost of school-specific variations in class size to the bilingual program. Although we found no reason to believe that these variations are caused by the presence of LEP students in the schools, it is possible that classroom teachers have been added to the staffs of some schools because of the presence of LEP students. If this were true, the appropriate class size would be computed by dividing total enrollment by some reduced number of classrooms. To make such a computation we would have to decide how many bilingual program classrooms are additional to, and how many are replacements for, monolingual English classrooms. Because we had no evidence that schools have been staffed in this way, not to mention the difficulty in knowing what procedure would be appropriate in each case, we did not attempt this computation. We illustrate the effects of making this assumption in one of the examples below.

In the case of part-time programs, i.e., the provision of language assistance instruction by a teacher who removes LEP students from self-contained classrooms, we took the class size for instruction without the bilingual program to be simply our estimate of the LEA average class size. This is because school-level variations in class size probably do not affect the size of pull-out groups.

Note that what we took to be the relevant per-student cost at a given school without the bilingual program depended on the situation being considered. This is proper because it allows us to compensate for variations in the delivery of instruction that do not arise from the bilingual program.

Examples of Computing the Added Cost of Instructional Personnel

With the above as background, we provide three example computations of added cost of instructional personnel. The first two are for self-contained classrooms and a pull-out teacher at the elementary level. The third is for a bilingual program teacher at the secondary level. All of the computations of the added cost of instructional personnel were minor variations on these three basic types.

We chose District A for all three examples because this district uses a wide variety of approaches for furnishing bilingual education and because the use of a single LEA avoids confusion arising from LEA-LEA variations in teacher salaries.

Self-Contained Classroom. It is the policy of District A to provide bilingual instruction in self-contained classrooms whenever sufficient numbers of students require services and a qualified bilingual teacher is available to serve them. This teacher is usually assisted by a bilingual aide.

School Number 4 in A instructs 433 students in 14 classrooms, giving an average class size of 30.9. There are 126 students enrolled in 4 bilingual classrooms. Of these students, 79 are LEP Hispanic students. What is added to the cost of instructing these students because they are LEP?

$$\text{Added cost/student} = \frac{(4\ BT + 4\ A)}{126} - \frac{T}{30.9}$$

Where BT = average bilingual teacher salary, plus fringe, in A
A = average aide salary, plus fringe, in A
T = average teacher salary, plus fringe, in A.

Let us discuss the form of the computation before completing it. Note that the first term measures the cost of instruction for each student in the bilingual classrooms, regardless of whether the student is LEP, and recall that this procedure is dictated by the "joint production" nature of bilingual education, as discussed on pages 38 and 39. We do not include aides in the computation of the cost of instruction without the bilingual program (the second term) because District A does not provide aides to every classroom.[3] Next, note that we used the LEA-average teacher salary and the average class size in School Number 4 to estimate what would be the cost of instruction without the bilingual program. We illustrate the effects of varying these estimates shortly.

Completing the computation,

If BT = \$22,884; A = \$7,535; and T = \$27,377,

Added cost/student	= \$80
Total added cost for LEP students	= \$6,320
Total added cost	= \$10,080

Note that the total added cost is less than the cost of the four aides because their cost is largely offset by the less expensive bilingual teachers.

Now let us consider the effects of varying assumptions about average teacher salary and average class size without the program. If we assume that District A would not have hired an equal number of younger teachers without a bilingual program, we may remove their salaries from

[3]District A provides bilingual aides in a few monolingual English classrooms that contain LEP students. The cost of these aides was included in the computation of added cost per student for District A.

the computation of average salary. The resulting figure is only slightly higher ($28,023) than the value of T used above because bilingual teachers represent a little more than 10 percent of the total teaching staff. Using this revised value, the added cost-per-student would have been $59, rather than $80.

The average class size has a much stronger effect on the computation. If we assume that one teacher would not have been added to the staff without the bilingual program, the average class size in School Number 4 would have been 33.3,[4] and the added cost-per-student would be $144. If we adopt both revised assumptions, the added cost-per-student would be $124.

Pull-Out Instruction. In addition to the 79 LEP Hispanic students served in the bilingual classrooms, School Number 4 also has 55 LEP students who speak other languages than English or Spanish and for whom language assistance instruction has not been provided in a self-contained classroom. District A has provided, instead, an ESL teacher and a bilingual aide who teach these students in six groups whose size averages 9.2. Each group is away from the classroom for one sixth of each instructional day. From our school visits, we estimate that the average class size at the elementary level in District A is 31. What is added to the cost of instruction for these students because they are LEP?

[4]This number seems out of line with District A's contract with the teacher union, which gives 30 as the maximum class size at the elementary level. Put another way, we would expect to see a relatively low average class size in schools where bilingual teachers were added to, rather than replacing, staff. This was not the case in School Number 4.

$$\text{Added cost/student} = \frac{1}{6}\,\frac{(\text{ESLT} + \text{A})}{9.2} - \frac{1}{6}\,\frac{\text{T}}{31}$$

Where ESLT = average ESL teacher salary in A, and T and A are defined as before.

If ESLT = $27,827,

Added cost/student = $494

Total added cost for LEP students = $27,170

Note that the total added cost is a large fraction of the total cost of the ESL teacher and aide because only a small part of the nonbilingual classroom teacher's salary may be deducted.

The difference shown in the two examples between the added cost for self-contained classrooms and for pull-out programs is not unusual. It arises primarily because of the generally lower class size in pull-out programs.[5]

Instruction at the Secondary Level. District A provides language assistance instruction to secondary LEP students during one or more of their regular classroom periods. School Number 13 has 3 bilingual teachers, assisted by 2 aides, for 115 LEP students. Although the average class size in School Number 13 is 23.7, the average class size in the bilingual classrooms is 28. All students in the bilingual classrooms are LEP. What is the added cost of instruction for the LEP students?

[5]If addition of teachers for pull-out programs were to result in larger classes for classroom teachers (which they do not, perhaps because of the complexities in scheduling that would arise if they did), the added cost of instruction would have to be computed on the basis of the entire school.

The added cost per student is the product of the added cost per student for one period of bilingual instruction and the number of periods that each student receives bilingual instruction. Since each teacher teaches 5 periods, the added cost-per-student of each period of bilingual instruction is:

Added cost per period, per student =

$$\frac{(3\ BT + 2\ A)}{(15 \times 28)} - \frac{T}{(5 \times 23.7)} = -\$32$$

Note that in this example the added cost is negative primarily because of the larger class size. Although this example is not typical (we found negative added cost at only 4 of the 60 schools for which we obtained data), we include it to illustrate the overriding influence of class size on cost.

The 115 LEP students require a total of 690 student-periods of instruction, since 115 x 6 = 690; the three bilingual teachers furnish 420 student-periods of instruction, since 15 x 28 = 420. Therefore, each bilingual student receives (420/690) x 6 = 3.65 periods of bilingual instruction, and the total added cost of bilingual instruction per student is:

Total added cost/student = 3.65 x -$32 = -$117

The example is typical in that secondary LEP students almost never receive language assistance instruction for the entire school day. This decreases the added cost per secondary student.

At this point we should note that we have shown added cost to the nearest dollar only for the purposes of illustrating the computational

method. The cost estimates derived here are not this accurate; later we summarize our findings to one significant figure, which is the limit of accuracy we can assert.

LEA-Average Added Cost Per Student. In the three smaller LEAs in the sample, Districts B, D, and F, the data we gathered on cost-per-student essentially covered the LEA. In the larger LEAs, however, we adjusted the average added cost-per-student derived from our data to represent the LEA as a whole. This was necessary because of the large variations in added cost by delivery mode and level.[6]

We use District A again to illustrate the computation of average added cost-per-student for the district. The central offices provided a list of teachers in self-contained bilingual program classrooms and in pull-out programs. Comparison of this list with the numbers of teachers of each kind in our sample showed that we had sampled larger numbers of teachers in self-contained classrooms relative to pull-out teachers than are provided in the LEA as a whole. Therefore, we adjusted our figures to take account of this. The computations were made separately for the elementary and secondary levels because of the differences in cost-per-student at the two levels.

We made the adjustment in the following steps. First, using our sample, we computed the average added cost-per-student at each level for each type of teacher, as shown in Table 8.

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[6]There were also variations in added cost among schools at a given level for a given delivery mode. These variations generally arose from variations in class size but tended to deviate from the mean less than did variations arising from the use of different delivery modes at different levels.

Table 8

ADDED PERSONNEL COST FOR DISTRICT A, BY LEVEL AND TYPE OF TEACHER

Program Organization	Added Cost-per-Student	
	Elementary	Secondary
Self-contained	$200	-$ 24
Pull-out	$446	$636*

*Some middle schools had bilingual programs similar to those in elementary schools, including pull-out teachers.

Next, we computed the total number of students at each level who receive services from each type of teacher. To do this, we had to assume that the number of students per teacher of each type is the same for our sample as for the LEA as a whole. Table 9 displays the results.

We next computed total added cost by multiplying the number of students at each level for each type of teacher by the appropriate average added cost-per-student and summing the results. Finally, we divided the total added cost by the total number of students to obtain an average added cost-per-student of $159 for District A.

This computation slightly overstates the added cost for those pull-out students in District A who are also in self-contained, bilingual classrooms. To compute added cost for those students, we should have included a fraction of the pull-out teacher and aide with the self-contained, bilingual program classrooms. Instead, to compute the added cost for students receiving both types of services, we simply added the separate per-student cost of each service. Of the three large districts

Table 9

NUMBER OF STUDENTS IN DISTRICT A,
BY LEVEL AND TYPE OF TEACHER

	Number of Students	
Program Organization	Elementary	Secondary
Self-contained	3528	5056
Pull-out	2018	146
	- 683*	- 146*
Total	4863	5056

*Pull-out students also served in self-contained classrooms.

for which we had to adjust our district-wide averages as above, only District A provided overlapping services.

Total Added Cost of Instructional Personnel

Using similar procedures we computed the average added cost-per-student in each of the six LEAs. The results, in Table 10, show that the average added cost-per-student varies widely among the LEAs we visited. Because average teacher salary might account for part of this variation, we have displayed it in the table. We note that District E, which has the lowest average teacher salary also has the lowest added cost. On the other hand, the added cost for District A, with the highest average teacher salary, is the second lowest in the table. Thus, average teacher salary cannot account for all of the LEA-LEA variation shown in the table.

Table 10

ADDED COST OF INSTRUCTIONAL PERSONNEL

District	Added Cost-per-student	Average Teacher Salary (x1000)	Percent Students in Pull-out*
A	$159	$27.4	46
B	426	21.5	75
C	504	26.8	100
D	332	22.6	54
E	85	20.9	26
F	220	22.0	17

*Includes students in both self-contained classrooms and pull-out.

Another contributory factor undoubtedly is the percentage of students in pull-out programs, also shown in Table 10, because LEAs with lower percentages of students in pull-out programs have lower added cost-per-student. Once again, the relationship is not linear, however. Probably several factors would need to be considered simultaneously to account for most of the variation in added cost-per-student displayed in the table. Table 7 shows that District F, for example, has nearly one aide in every bilingual classroom, whereas District E has very few; this helps to account for the difference between these two districts.

Apparent Source of LEA Reports of Large Added Cost-per-student for Bilingual Education

At this point we may speculate about the source of LEA reports of the large additional funding required for bilingual education. In

particular, we may compare our estimates of added cost-per-student for pull-out instruction with additional funds reported by two of our sample LEAs. (The other LEAs in the sample did not report cost for pull-out instruction.) One of the LEAs reported that an additional $600 per student would be needed for pull-out instruction; the other, $1100.

Our estimates of the added cost of pull-out instruction for these LEAs are only 40 to 50 percent of these figures. We first point out that both LEAs presented these figures as estimates of additional funding needed, rather than as estimates of bona fide added cost. This is the source of most of the discrepancy, since we computed the added cost of instruction by subtracting from the total cost our estimate of the cost of instruction without the bilingual program. The LEAs in question simply used the total budget for the additional teacher salaries to estimate added cost.

District administrators point out that since the pull-out teachers must be added to the teaching staff, their salaries represent an additional expense. The question is, then, what does the discrepancy between this expense and our estimate of added cost represent? The response is that most of the difference really measures resources indirectly "added" to the classrooms from which students are pulled out through a reduction in the average class size.

An additional 15 to 20 percent of the discrepancy arises from the LEA's use of average teacher salary to compute the cost of additional teachers. In each LEA, teachers actually assigned to the bilingual program earned 75 to 85 percent of the average teacher salary. Thus, part of the discrepancy arises from the LEA's use of hypothetical, rather than actual, measures of teacher cost.

Instructional Materials and Equipment

Because the use of instructional equipment was of particular interest in some of the previous work,[7] we initially attempted to determine through teacher interviews whether LEP and non-LEP students differed significantly in their use of such equipment. In general, teachers reported that equipment usage, though it might vary in detail, was about the same for each type of student. We also found that classroom teachers, whether or not they taught LEP students, tailor-made a variety of instructional materials for their classrooms. Thus, we also failed to identify significant differences in materials development at the classroom level.

Primarily for these reasons, we relied on budgetary figures to identify the cost of instructional materials and equipment and assumed that these figures represent added cost. This may overstate cost, since we have no reason to believe that LEP students use full sets of monolingual English materials in addition to the materials furnished specifically for them. On the other hand, LEP students also use materials and equipment funded under programs not targeted to LEP students, e.g., Title I.

Where possible, we separated materials development from purchase of materials and equipment because of interest in start-up cost. Our data probably understate the initial cost of obtaining materials and equipment, since the bulk of these items were already in place in the LEAs we visited.

[7]Cardenas et al., 1976b.

Table 11, which summarizes the total added cost of instruction per student to the nearest hundred dollars, includes these results. As expected, the cost of materials and equipment, although not negligible, is generally overshadowed by personnel cost. In District E, however, materials and equipment account for nearly 30 percent of the cost of instruction, largely because the cost of instructional personnel is unusually low.

As noted earlier, we have shown estimated costs to the nearest dollar, not because our estimates are this accurate but to illustrate the computational procedures followed. In reality, our cost estimates are probably accurate to only one significant figure, as shown in the last column of the table.

Table 11

TOTAL ADDED COST OF INSTRUCTION PER STUDENT

	Added Cost of Instruction per Student ($)			
		Materials & Equipment		
District	Personnel	Development	Purchase	Total
A	159	15	21	200
B	426	27	26	500
C	504	NA*	11	500
D	332	0	70	400
E	85	7	28	100
F	220	0	70	300

* NA: Not Available.

ADDED COST OF OTHER FUNCTIONS

The other functions on which we gathered data are:

- o Student identification and assessment for program placement.
- o Parent involvement.
- o Staff development.
- o Program administration.
- o Other support activities.

We used various sources and procedures to estimate the costs of these functions and generally assumed that the total cost of each is an added cost.

Student Identification and Assessment for Program Placement

It is our impression that this function is required solely for student placement in bilingual programs, so that costs estimated for it are all added costs. On the other hand, students who are assessed and not subsequently placed in the program might benefit by being provided with more appropriate instruction in the monolingual English classroom. Since we obtained no evidence that this was the case, we did not adjust the cost of identification and assessment accordingly.

Although this function is integral to the conduct of bilingual education, it is rarely identified separately in LEA budgets, and few data are available describing it. We used whatever strategies seemed appropriate to derive estimates of its cost.

District A, for example, identified personnel whose main assignment is the categorization of LEP students for program placement. Estimates of the salaries of these persons provided our cost estimates for A. In

District B, the cost was separately identified in the budget. For Districts C and D we built costs from detailed descriptions of the identification and assessment procedures. District E, in which only personnel from the central office conduct this function, supplied us with detailed information on its cost. We supplemented budgetary figures for District F with estimates of costs for training test administrators and for test administration by classroom teachers and instructional aides. (We subtracted the latter costs from the cost of instruction.)

Clearly the above leaves something to be desired from the points of view of completeness and consistency of approach. With these difficulties in mind, we present the results in Table 12.

As the table shows, the cost of this function is relatively low and varies by a factor of 5 among the LEAs. District D appeared to incur the highest cost partly because the testing program is relatively new in this district.

Table 12

PER-STUDENT COST OF IDENTIFICATION AND ASSESSMENT

District	Cost Per Student Served ($)
A	21
B	20
C	6
D	38
E	12
F	5

Parent Involvement

Most LEAs allocated funds for parent involvement activities, such as home liaison workers or baby-sitting services for parents attending school functions, but these were generally small. We used data from LEA budgets to estimate the cost of this function and assumed that all such funds represent added costs. The results, as well as estimates of the cost of the next three functions, are presented in Table 13 in the following section.

Staff Development

This function includes in-service training, conferences, tuition, and other support provided by the LEA to instructional staff to improve their bilingual educational skills. Unlike the identification/assessment function, staff development activities are frequently identified separately in LEA budgets, partly because of the requirement to do so for receipt of categorical funds. Most of the data we report came from such budgets; sometimes we supplemented these by addition of personnel specifically identified for staff development functions, such as in-service specialists. We did not include staff development activities paid for by individual staff, such as attendance at relevant extension courses.

These figures undoubtedly overstate added cost, since many monolingual English instructional staff participate in similar staff development activities.

Program Administration

Here we included the salaries of persons who administer bilingual programs and of secretarial and clerical personnel at central program offices and individual schools. Also included are the cost of office supplies, travel, communications, and conference attendance by administrative persons. We excluded salaries of persons who administer multiple categorical programs, of which bilingual programs are only a part, largely because we had no defensible rationale for allocating fractions of these salaries among functions.[8] Except in the two smallest LEAs, this does not represent a significant omission. We excluded costs of general LEA administration on the assumption that they would be removed in the computation of added cost.

Other Support Activities

This function includes the following: medical aides identified as serving LEP students, medical supplies for these persons, student counselling, remodeling and rental of facilities dedicated to LEP instruction, and recruiting bilingual staff. By and large we had to use LEA and school budgets to derive these figures, which are more complete for some districts than for others.

ALLOCATION OF COSTS AMONG FUNCTIONS

Table 13 summarizes the results of the preceding analyses. Total added costs by function are shown in the body of the table in thousands

[8]Undoubtedly, given time, we could have developed reasonable allocations on the basis of the numbers of teachers and students in each program.

Table 13

ADDED COST OF BILINGUAL PROGRAMS BY FUNCTION (THOUSANDS)

District	Instruction	ID & Assessment	Parent Involvement	Function Staff Development	Administration	Other	Total[a]	Total Cost/LEP Student ($)
A	2000 50%	200 10%	100 (b)	200 (b)	900 20%	600 10%	4000	400
B	100 70%	10 (b)	20 10%	(c) (b)	20 10%	10 10%	200	700
C	1000 80%	10 (b)	NA[d]	90 10%	200 10%	0 0	2000	700
D	100 60%	10 10%	10 (b)	40 20%	20 10%	(c) (b)	200	700
E	1000 60%	100 10%	0 0	300 20%	200 10%	200 10%	2000	200
F	400 60%	10 (b)	30 (b)	100 20%	80 10%	0 0	600	500

[a]Totals may not add due to rounding.

[b]Less than 5 percent.

[c]Less than $5,000.

[d]NA: Not available.

of dollars. Also shown are the percentages of total added cost accounted for by the different functions and the total added cost per LEP student.

As shown in the table, instruction accounts for 50 to 70 percent of the added cost at each of the LEAs in our sample. There are also large variations in percentages for some of the other functions, such as staff development and administration. We have less confidence in these latter figures than in those for instruction because we were perforce less systematic and thorough in deriving them. Therefore, the variations shown may reflect the true situation or may, in part, be artifacts of procedures for data reporting.

Total added cost per LEP student appears to vary from about $200 to about $800, or by a factor of 4. Despite the problems in our data, we believe that Table 13 provides evidence that the added cost-per-student of bilingual education is at least as large as estimated by previous studies but not as large as asserted by some LEAs.

EFFECTS OF PROPOSED RULES ON COST

In each LEA in our sample we solicited people's reactions to the proposed rules and asked what the effects of the rules would be on the cost of education. In general we found that even people who professed familiarity with the rules were not knowledgable about them. This lack of familiarity obtained at every level in the school system and often included administrators of bilingual programs.

Therefore, it was not surprising to find that in only two of the LEAs had someone gone so far as to estimate the numbers of students that

would fall into the newly proposed categories. A person in one of these LEAs had estimated that the proposed rules, by making more students eligible for services, would impose the cost of additional ESL teachers on the LEA. This person felt, however, that the cost of additional language assessment acitivities and other functions that would have to be expanded under the new rules could not be estimated.

IV. CONCLUSIONS

DELIVERY OF SERVICES TO LEP STUDENTS AT SAMPLE SITES

Bilingual programs are delivered in many ways at our sample sites. These variations are important because they affect the amount and cost of language assistance services LEP students receive. In particular, at the elementary level, self-contained classrooms deliver more language assistance services than do pull-out programs.

We found little formal instruction about primary languages in the sample sites. Elementary students in self-contained classes receive approximately one class period of instruction about their primary languages, but students in pull-out programs generally receive little or none, as do secondary school students.[1]

In the sample LEAs, elementary students receive more language assistance services than do secondary students. At the secondary level, services can vary widely among schools within the same LEA. Whether a "bilingual" course is offered often depends on the availability of teachers willing and able to teach the class--not just on district policy.

The procedure or combination of procedures an LEA uses to deliver language assistance services is affected by LEA policy as well as by other factors such as availability of qualified staff. In fact, all LEAs need more qualified personnel willing to work with LEP students,

[1] In one LEA, most elementary LEP students not in bilingual, self-contained classrooms are pulled out for instruction in their primary language.

although the severity of the need varies among the LEAs. Districts A and E, for example, have less of a shortage than the others, perhaps because they have large populations that speak the target languages and because their programs are older.

Districts with declining enrollments, such as A and C, face conflicting demands to reduce the total number of teachers and, at the same time, hire additional teachers who can meet a growing need for bilingual programs. These LEAs are under pressure to provide services for LEP students by using excess teachers from the existing staff, teachers who are usually not qualified to fill these needs. Similarly, in districts experiencing dramatic increases in LEP youngsters, whatever their primary languages, staffs state they are unable to acquire enough teachers as well as materials for their language assistance programs.

The number of students who have the same primary language and what the language is affect the way in which bilingual education is provided. Small numbers of LEP students within a given school, or students speaking a relatively uncommon language (e.g., Afghanistani or Russian), are likely to receive part-time bilingual instruction from a pull-out teacher, an itinerant tutor, or an instructional aide.

Finally, different problems attend provision of services to Asian and Hispanic students in the sample LEAs. Staffs noted that tests of language proficiency, as well as achievement tests, need to be developed for Asian LEP students and that Asian bilingual teachers are in shorter supply than are Spanish bilingual teachers.

ADDED COST OF BILINGUAL EDUCATION

In the LEAs we visited, we estimate that the added cost of language assistance instruction ranges from $100 to $500 per student. We derived these numbers from detailed data describing the resources used to deliver language assistance instruction in about 60 schools. Our results provide a measure of the economic cost of such instruction and are different from results that would be obtained by dividing LEA budgets for language assistance instruction by the numbers of students taught. The latter type of computation is subject to the idiosyncracies of LEA budgeting systems and often does not provide a realistic measure of added cost.

Variations in the added cost of instruction among the LEAs in our sample reflect variations in average teacher salaries and in the mode of delivery of instruction. Within a given LEA, a self-contained classroom usually adds less cost than does a pull-out teacher. In the LEAs we visited, self-contained classrooms deliver more language assistance services to individual students than do pull-out programs. Thus, federal regulations that prohibit the use of categorical funds for support of classroom teachers but allow their use for support of bilingual coordinators and other non-instructional personnel, may offer the wrong incentive to LEAs, whatever the legality of their rationale.

Other costs should be added to the cost of instruction to compute the total added cost of bilingual programs. Program administration and staff development can add significantly to cost. Other functions, such as student identification and assessment for program placement, add relatively little to cost.

We estimate that total added cost ranges from $200 to $700 per student in the LEAs we visited. These figures are at least as high as those estimated in previous studies but not as high as some LEAs have put forth on the basis of their budgets for bilingual education. Since we were unable to reduce the budget cost for several functions by their cost without the bilingual program, these numbers may slightly overstate the true added cost of bilingual education.

We found that the added cost of bilingual programs depends strongly on the procedures LEAs use to deliver services. These procedures depend, in turn, on many factors specific to the LEA, including LEA policy, numbers of LEP students to be served, the primary languages of these students, availability of qualified instructional personnel, and enrollment trends. Because of these complications, considerably more information is needed to establish the cost of bilingual programs nationwide.

First we would need to know the numbers of students in each district and in each language group that will need bilingual programs, and the intensity and extent of instruction needed. Extent refers to the range of subjects involved in the instruction and intensity refers to the fraction of the instructional day involved in the instruction. To determine extent and intensity, we would have to make assumptions about policies for provision of bilingual programs. With the recent shelving of the proposed rules, state and local policies would be of overriding concern in making this determination.

This information could then be combined with information on the availability in each district of persons qualified to provide instruc-

tion at the desired levels of extent and intensity. If such data were available, they might suggest which modes of delivery would be most appropriate for which groups of students in each district.

We would also need to obtain nationally representative estimates of average added cost-per-student, by mode and by level. Using these, adjusted to nationwide averages, we could then produce a rough estimate of the added economic cost to the nation of providing bilingual education under various state and local policies.

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Appendix A

INTERVIEW GUIDES

PRINCIPAL INTERVIEW GUIDE

District: _____ School: _____

Principal: _____

1. Total School Enrollment _____

2. Ethnic Composition of Enrollment _____

_____

_____

_____

_____

3. Number of Language Minority Students _____

_____

_____

_____

4. How many regular classrooms are there at the school? _____

5. How many bilingual classrooms are there at the school? _____

6. Number of aides employed at the school? _____ Source of funds _____

7. How many of these are provided for LM students? _____

8. Average number of hours the aide works in the classroom each day? _____

9. What extra services are provided students at your school?

Service	Funding Sources	Staff Type	Staff Number	# Students L.M.	# Students Non-L.M.

TEACHER INTERVIEW GUIDE

District: _____ School: _____

Teacher: _____

CURRENT ASSIGNMENT

1. Regular classroom teacher _____

   Elementary School: _____ grade: _____

   Middle School: _____ grade(s):_____ subject: _____

   High School: _____ grade(s):_____ subject: _____

   Other teacher: _____ (specify)

   _____

   Grade span taught: _____

2. Language (other than English) fluently spoken by the classroom teacher:

   _____

   Native speaker? _____

EDUCATIONAL BACKGROUND

3. Highest Degree Attained: _____

4. Number of semester units beyond highest degree: _____

5. Do you have a bilingual teaching certificate? _____

6. Number of years teaching experience:

general: _____

working with language minority students: _____

INSTRUCTIONAL PRACTICES

(If the teacher typically visits the classrooms of other teachers, skip to Question 17.)

7. Total # students in typical class: _____

Non-L.M. students: _____

L.M. Students: _____

_____

_____

8. Can you please review your daily schedule with me?

When does the student's school day begin: _____ a.m.

When does the school day end? _____ p.m.

How long is the lunch break? _____

recess? _____

8a.

DAILY SCHEDULE

Start Time	Stop Time	Subject	Target Group (L.M., Non-L.M., whole class) # Students	Other Instructional Staff Working with Students (Indicate if pullout)

9. Are L.M. students pulled out of your classroom? _____

   If yes, which ones and for how long? _____

10. Does a special L.M. teacher visit your classroom? _____

    If yes, for which students and for how long? _____

11. Do you have the services of aides in the classroom? _____

    If yes, how many aides in a typical classroom? _____

12. Briefly describe the use of the aides: _____

    _____

    _____

13. How many of the aides are bilingual? _____

    If any, what are the non-English languages they speak? _____

    _____

14. Are adequate instructional materials provided for use with L.M. students?

    _____

    _____

15. Do you develop curricular materials for use in classes other than your own? _____

16. Do you test children's proficiency in English, another language? _____

    _____

    If yes, please describe process and who is involved?

    oral, written, test)_____

16. (cont'd.)

administered in group or individually _____

_____

_____

Is it done during the regular school day? _____

How long do you spend testing your students?

# Students	Total Time
_____	_____
_____	_____
_____	_____
_____	_____

Appendix B

EXAMPLES OF HOME LANGUAGE SURVEYS

October 10, 1980

Dear Parent:

The school district is required by federal regulations to have on file a document that indicates the language(s) spoken at home. This information is essential for schools to provide proper instruction for students. Your cooperation in helping us meet this important requirement is requested.

Thank you for your help.

Sincerely,

Superintendent

HOME LANGUAGE SURVEY

_____ _____
Teacher Date

Please answer the following questions and have your son/daughter return this form to his/her teacher. Thank you for your help.

Name of Student _____
(Last) (First) (Middle)

Grade _____ Age _____

1. Is English the only language spoken at home? ____ Yes ____ No
2. What language does your son or daughter most frequently use at home? _____
3. What language do you use most frequently to speak to your son or daughter? _____
4. Name the language most often spoken by the adults at home. _____
5. Which language did your son or daughter learn when he or she first began to talk? _____

_____
Signature of Parent or Guardian

Form A

10 de octobre 1980

Queridos Padres:

El distrito escolar requiere por ley federal tener un documento que indique los idiomas que se hablan en casa. Esta información es necessaria para que las escuelas puedan ofrecer la mejor instrucción posible para los estudiantes. Agradecemos su co-operátión en ayudarnos con éste requisito tan importante.

Muchas gracias por su asistencia.

Sinceramente,

Superintendente

ESTUDIO DE IDIOMA EN CASA

_____ _____

Maestro Fecha

Favor de contestar la siguientes preguntas y que su hijo/hija regrese este cuestionario a su maestro. Gracias por su ayuda.

Nobre de Alumno _____ _____ _____

(Apellido) (Primer Nombre) (Segundo)

Grado _____ Edad _____

1. ¿Es inglés el único idioma que hablan en casa? _____
2. ¿En qué idioma habla más su hijo/hija en casa? _____
3. ¿Qué idioma usa más usted cuando habla con su hijo/hija? _____
4. Nombre el idioma que es usado más por los adultos en casa. _____
5. ¿Cuál fué el primer idioma que aprendió su hijo/hija cuando empezo a hablar? _____

_____

Firma de padres o guardian

TEACHER SURVEY OF STUDENT LANGUAGE

This survey is used to determine the language proficiency of students who may speak a language other than English. Please complete the survey on all students whose:

1. Parent survey indicates that the language first learned by the student was other than English, or
2. Parent survey indicates that a language other than English is spoken in the home.

Student's Name: _____ Grade: _____

Student's I.D. No: _____ Date: _____

School _____ Teacher: _____

1. a. Has the student ever spoken a language other than English in the classroom? _____ (1) Yes _____ (2) No

   b If Yes, indicate language spoken: _____ (1) Spanish _____ (2) Other: (Please specify) _____

2. Does the student usually speak a language other than English with his friends? _____ (1) Yes _____ (2) No

3. Please rate how much the student **understands** his/her teacher when the teacher is **speaking** English:

   _____ (4) Understands little or no English.
   _____ (3) Understands some English but not enough to understand his teacher in the classroom.
   _____ (2) Understands English but does not understand it as much as native English-speaking students of his/her age.
   _____ (1) Understands English as well as native English-speaking students of his/her age.

4. Please rate how well the student **speaks** English.

   _____ (4) Speaks little or no English
   _____ (3) Speaks some English but not enough to be understood by his/her teacher in the classroom.
   _____ (2) Speaks English but not as well as native English-speaking students of the same age.
   _____ (1) Speaks English as well as native English-speaking students.

5. Please rate how well the student **reads** English. (Rate only for students in the second grade and above.)

   _____ (4) Reads little or no English.
   _____ (3) Reads some English
   _____ (2) Reads English but not as well as native English-speaking students of the same age.
   _____ (1) Reads English as well as native English-speaking students.

6. Please rate how well the student **writes** English. (Rate only for students in the second grade and above.)

   _____ (4) Writes little or no English
   _____ (3) Writes some English
   _____ (2) Writes English but not as well as native English-speaking students of the same age.
   _____ (1) Writes English as well as native English-speaking students.

Based on your judgment, rank the student's proficiency in **English** for each language area listed below by checking the one most appropriate statement in each area:

7. Pronunciation

   _____ (5) Pronunciation problems so severe as to make speech almost unintelligible.
   _____ (4) Very hard to understand because of pronunciation problems. Must frequently be asked to repeat.
   _____ (3) Pronunciation problems necessitate concentrated listening and occasionally lead to misunderstanding.
   _____ (2) Always intelligible, though one is conscious of a definite accent.
   _____ (1) Has few traces of foreign accent.

8. Grammar

   _____ (5) Errors in grammar and word order so severe as to make speech virtually unintelligible.
   _____ (4) Grammar and word-order errors make comprehension difficult. Must often rephrase sentences and/or restrict himself to basic patterns.

_____ (3) Makes frequent errors of grammar and word order which occasionally obscure meaning.
_____ (2) Occasionally makes grammatical and/or word-order errors which do not, however, obscure meaning.
_____ (1) Makes few (if any) noticeable errors of grammar or word order.

9. Vocabulary

_____ (5) Vocabulary limitations so extreme as to make conversation virtually impossible.
_____ (4) Misuse of words and very limited vocabulary make comprehension quite difficult.
_____ (3) Frequently uses the wrong words; conversation somewhat limited because of inadequate vocabulary.
_____ (2) Sometimes uses inappropriate terms and/or must rephrase ideas because of a lack of vocabulary.
_____ (1) Use of vocabulary is virtually that of a native speaker.

10. Fluency

_____ (5) Speech is so fragmentary as to make conversation virtually impossible.
_____ (4) Frequently forced into silence by language limitations.
_____ (3) Speed and fluency are strongly affected by language problems.
_____ (2) Speed of speech is slightly affected by language problems.
_____ (1) Speech is as fluent and effortless as that of a native speaker.

11. Comprehension

_____ (5) Cannot be said to understand even simple conversational English.
_____ (4) Has great difficulty following what is said. Can comprehend only "social conversation" spoken slowly and with frequent repetitions.
_____ (3) Understands most of what is said at slower-than-normal speed with repetitions.
_____ (2) Understands nearly everything at normal speed, although occasionally repetition may be necessary.
_____ (1) Appears to understand everything without difficulty.

Signed: _____
Teacher

Date: _____

Appendix C

SCHOOL PLAN FOR CONSOLIDATED PROGRAMS, 1980-1981

SCHOOL PLAN FOR CONSOLIDATED PROGRAMS, 1980-81

SPECIAL FUNDING
SCHOOL PROGRAM BUDGET
1980-81

SI BUDGET

(See the reverse side of this page and the following page for instructions.)

Object of expenditure number (A)	Item of expenditure (personnel, materials, equipment, and so forth) (B)	Funding source (C)	Amount budgeted (D)	School plan resources: Program budget areas — Lang. (E)	Read. (F)	Math. (G)	LES/NES (H)	Health (I)	Staff Dev (J)	Par/Fam Comm. (K)	Par/Fam Inv. Comm. Ed. (L)
1100	(1) Program Resource Teacher .65	SI Pgs. B17, 18 (1) B9 (2) D1, 2, 3 (5) D3, 4 (6) D1 (7)	$ 16346	2335	2335	2335	2335		2335	2335	2336
1100	Sub Days (18)	SI Pgs. D3 C B18 6	792						792		
3000	Employee Benefits		4195	599	599	599	599		599	600	600
2100	(14) 3594 Paraprofessionals funded 1 hr.	SI Pgs. B16 F (1-6C)	14924	3731	3731	3731	3731 (6) B11. Classroom Paras				
		TOTALS	$	$	$	$	$	$	$	$	$

Evaluation services included in centralized services $_____

Evaluation services performed by school personnel and included in the budget on this page $_____

Total evaluation services budgeted for school $_____

1. Total, columns E through L $45814

2. Total centralized services (includes evaluation) (Must match total on page 8) . . . . . $ 5091

3. Total school program resources (Must match line 11, column (c) of page 2 of this school-level plan, and column (21) for this school on the page 7 series of A-127D.) . . . . . $ 50905

SCHOOL PLAN FOR CONSOLIDATED PROGRAMS, 1980-81

SPECIAL FUNDING
SCHOOL PROGRAM BUDGET
1980-81

SE BUDGET

(See the reverse side of this page and the following page for instructions.)

Object of expenditure number (A)	Item of expenditure (personnel, materials, equipment, and so forth) (B)	Funding source (C)	Amount budgeted (D)	School plan resources: Program budget areas: Lang. (E)	Read. (F)	Math. (G)	LES/NES (H)	Health (I)	Staff Dev. (J)	Par/Fam Comm. Inv. (K)	Par/Fam Comm. Ed. (L)
2100	(1) 3594 Parent Liaison funded 1 hr.	SI Pgs. B18 I (1-6)	$ 1066							533	533
2100	(1) 3594 Dupl. Para funded 2 hrs.	SI Pgs. B17 (1-3)	2132	305	305	305	305		304	304	304
~~2100~~ 2100 //	(1) 2586 Health Aide funded 1 hr.	SI B19 J(1-4)	1066					1066			
2100	(1) 1424 Clerk Typist funded 1 hr.	Program SI B20 O (1-2)	955						955		
2100	(1) 3594 Media/Library Para funded 1 hr.	SI B19 L (1-2)	1066	533	533						
3000	Employee Benefits	SI	2130	457	457	404	404	106	136	83	83
4300	Instructional Materials	SI B17 G (1-2)	1142	284	284	285	285				
		TOTALS	$ 45814	$ 7960	$ 7960	$ 7374	$ 7374	$ 1172	$ 5121	$ 3855	$ 3856

Evaluation services included in centralized services $_____

Evaluation services performed by school personnel and included in the budget on this page $_____

Total evaluation services budgeted for school $_____

1. Total, columns E through L . . . . . $ 45814

2. Total centralized services (includes evaluation) (Must match total on page 8) . . . . . $ 5091

3. Total school program resources (Must match line 11, column (c) of page 2 of this school-level plan, and column (21) for this school on the page 7 series of A-1270.) . . . . . $ 50905 TM

DC 4/30

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SCHOOL PLAN FOR CONSOLIDATED PROGRAMS, 1980-81

SPECIAL FUNDING
SCHOOL PROGRAM BUDGET
1980-81

EIA SCE BUDGET (See the reverse side of this page and the following page for instructions.)

Object of expenditure number (A)	Item of expenditure (personnel, materials, equipment, and so forth) (B)	Funding source (C)	Amount budgeted (D)	School plan resources: Program budget areas: Lang. (E)	Read. (F)	Math. (G)	LES/NES (H)	Health (I)	Staff Dev. (J)	Par/Fam Comp. (K)	Par/Fam Inv. Comm. Ed. (L)
1100	Program Resource Teacher .35	SCE Pgs. B21, 22 (1) B9 10 (2) B6, 7 (3) D6, 7 (5) D6, 7 (6) D3, 3a (7)	$ 8801	1258	1258	1258	1258		1257	1256	1256
3000	Employee Benefits	SCE	2657	428	428	428	429		314	315	315
2100	(14) 3594 Paraprofessionals funded 1 hr.	SCE D (13), D5 C, D6 A (1)	14924	3731	3731	3731	3731 (6) B11 Classroom Para				
2100	(1) 3594 Parent Liaison funded 1 hr.	SCE D2, B1,2,3	1066							533	533
	TOTALS		$	$	$	$	$	$	$	$	$

Evaluation services included in centralized services $_____

Evaluation services performed by school personnel and included in the budget on this page $_____

Total evaluation services budgeted for school $_____

1. Total, columns E through L . . . . . $ 32516
2. Total centralized services (includes evaluation) (Must match total on page 8) . . . . . $ 3613
3. Total school program resources (Must match line 1), column (c) of page 2 of this school-level plan, and column (21) for this school on the page 7 series of A-127D.) 36129

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SCHOOL PLAN FOR CONSOLIDATED PROGRAMS, 1980-81

SPECIAL FUNDING
SCHOOL PROGRAM BUDGET
1980-81

EIA SCE BUDGET (See the reverse side of this page and the following page for instructions.)

Object of expenditure number (A)	Item of expenditure (personnel, materials, equipment, and so forth) (B)	Funding source (C)	Amount budgeted (D)	School plan resources: Program budget areas: Lang. (E)	Read. (F)	Math. (G)	LES/NES (H)	Health (I)	Staff Dev. (J)	Par/Fam Comm. Inv. (K)	Par/Fam Comm. Ed. (L)
2100	(1) Duplicating/BILP Para funded 1 hr.	SCE B23 D1-3	$1066	267	267	266	266				
2100	(1) 2586 Health Aide funded 1 hr.	SCE (7) B1 II .B1, 2, 3	1066					1066			
2100	(1) 1424 Clerk Typist funded 1 hr.	SCE B24 F(1-4)	955						955		
3000	Employee Benefits	SCE	1810	399	399	400	400	106		53	53
4300	Instructional Materials	SCE B23 D (2)	171	43	43	43	42				
		TOTALS	$32516	$ 6126	$ 6126	$6126	$6126	$1172	$ 2526	$ 2157	$ 2157

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Evaluation services included in centralized services $ 397

Evaluation services performed by school personnel and included in the budget on this page $ 0

Total evaluation services budgeted for school $ 397

1. Total, columns E through L . . . . . $ 32516

2. Total centralized services (includes evaluation) (Must match total on page 8) . . . . . $ 3613

3. Total school program resources (Must match line 11, column (c) of page 2 of this school-level plan, and column (21) for this school on the page 7 series of A-127D.) . . . . . $ 36129

SCHOOL PLAN FOR CONSOLIDATED PROGRAMS, 1980-81

SPECIAL FUNDING
SCHOOL PROGRAM BUDGET
1980-81

EIA LES/NES BUDGET

(See the reverse side of this page and the following page for instructions.)

Object of expenditure number (A)	Item of expenditure (personnel, materials, equipment, and so forth) (B)	Funding source (C)	Amount budgeted (D)	School plan resources: Program budget areas — Lang. (E)	Read. (F)	Math. (G)	LES/NES (H)	Health (I)	Staff Dev (J)	Par/Fam Comm. Inv. (K)	Par/Fam Comm. Ed. (L)
1100	ESL Resource Teacher funded .5 (1)	EIA LES/NES Pgs. B15, C1,a,b,c,d D1 A4, D2 D6	$ 11890	2972			2974		2972		2972
3000	Employee Benefits	EIA LES/NES	2973	743			744		743		743
2100	(14) 3594 Reg. Classroom Paras funded 1 hr.	EIA LES/NES (1) B22 B (1-4) B23 (5-6)	14924	3731	3731	3731	3731 (6) Bil. Classroom Paras				
2100	(1) 3594 Dupl. Para and Bur. BILP Para funded 1 hr.	EIA LES/NES (1) B22 B (1-4) B23 B(5-6)	1066	266	266	266	268				
2100	(1) 3594 Parent Liaison Sp. BILP Para funded 1 hr.	EIA LES/NES (1) B23 C 1 a, b	1066	178	178	178	178			177	177
		TOTALS	$	$	$	$	$	$	$	$	$

Evaluation services included in centralized services $_____

Evaluation services performed by school personnel and included in the budget on this page $_____

Total evaluation services budgeted for school $_____

1. Total, columns E through L . . . . . $ 59558

2. Total centralized services (includes evaluation) (Must match total on page 8) . . . . . $ 6618

3. Total school program resources (Must match line 1), column (c) of page 2 of this school-level plan, and column (21) for this school on the page 7 series of A-1270.) . . . . . $ 66176

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SCHOOL PLAN FOR CONSOLIDATED PROGRAMS, 1980-81

SPECIAL FUNDING
SCHOOL PROGRAM BUDGET
1980-81

EIA LES/NES (CON'T)

(See the reverse side of this page and the following page for instructions.)

Object of expenditure number (A)	Item of expenditure (personnel, materials, equipment, and so forth) (B)	Funding source (C)	School plan resources: Amount budgeted (D)	Program budget areas: Lang. (E)	Read. (F)	Math. (G)	LES/NES (H)	Health (I)	Staff Dev. (J)	Par/Fam Comm. Inv. (K)	Par/Fam Comm. Ed. (L)
2100	(1) 2586 Health Aide funded 1 hr.	EIA LES/NES Pgs. B24 E (1-3) 7 B2 III C1,2,3	1066					1066			
2100	(1) 3593 Asian Read/ Write Para funded 5 hrs.	EIA LES/NES B26 I 1	4564	1141	1141	1141	1141				
2100	(1) 3594 Asian Resource Para funded 6 hrs.	EIA LES/NES B25 H(1-5)	6396	1599	1599	1599	1599				
2100	(1) 3594 Media Library Para funded 2 hrs.	EIA LES/NES B24 G1 B2 G(2-3)	2132	1066	1066						
2100	(1) 3594 ESL Para funded 6 hrs.	EIA LES/NES B15 D1	6396	3198	3198						
3000	Employee Benefits	EIA LES/NES	3744	1117	795	688	1008	106		15	15
4100	Instructional Supplies	EIA LES/NES	3341	835	835	835	836				
		TOTALS	$ 59558	16846	$ 12309	$ 8438	$ 12479	$ 1172	$ 3715	$ 192	$ 3907

Evaluation services included in centralized services $ _____

Evaluation services performed by school personnel and included in the budget on this page $ _____

Total evaluation services budgeted for school $ _____

1. Total, columns E through L . . . . . $ 59558

2. Total centralized services (includes evaluation) (Must match total on page 8) . . . . . $ 6618

3. Total school program resources (Must match line 11, column (c) of page 2 of this school-level plan, and column (21) for this school on the page 7 series of A-127D.) . . . . . $ 66176

SCHOOL PLAN FOR CONSOLIDATED PROGRAMS, 1980-81

SPECIAL FUNDING
SCHOOL PROGRAM BUDGET
1980-81

TITLE I BUDGET

(See the reverse side of this page and the following page for instructions.)

Object of expenditure number (A)	Item of expenditure (personnel, materials, equipment, and so forth) (B)	Funding source (C)	Amount budgeted (D)	School plan resources: Program budget areas — Lang. (E)	Read. (F)	Math. (G)	LES/NES (H)	Health (I)	Staff Dev. (J)	Par/Fam Comp. Inv. (K)	Par/Fam Comm. Ed. (L)
1100	Sub. Days (80)	Title I Pgs. D18 (3)	$ 3520						3520		
3000	Employee Benefits	Title I	480						480		
2100	(14) 3594 Reg. Classroom Paras funded 3 hrs.	Title I B22 B(1-4) B23 B (5-6)	44772	11193	11193	11193	11193				
2100	(1) 3594 Duplicating Para and Bur/BILP funded 2 hrs.	Title I B23, D (1-3)	2132	533	533	533	533				
2100	(1) 3594 Parent Liaison Span. BILP funded 3 hrs.	Title I B23 C (1) a & b	3198							1599	1599
2100	2586 Health Aide funded 1 hr.	Title I B1 B (1-2) B 2 , B 3	1066					1066			
	TOTALS		$	$	$	$	$	$	$	$	$

Evaluation services included in centralized services $_____

Evaluation services performed by school personnel and included in the budget on this page $_____

Total evaluation services budgeted for school $_____

1. Total, columns E through L . . . . . $ 80420
2. Total centralized services (includes evaluation) (Must match total on page 8) . . . . . $ 8935
3. Total school program resources (Must match line 11, column (c) of page 2 of this school-level plan, and column (21) for this school on the page 7 series of A-127D.) . . . . . $ 89355

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SCHOOL PLAN FOR CONSOLIDATED PROGRAMS, 1980-81

SPECIAL FUNDING
SCHOOL PROGRAM BUDGET
1980-81

TITLE I BUDGET (CON'T) (See the reverse side of this page and the following page for instructions.)

Object of expenditure number (A)	Item of expenditure (personnel, materials, equipment, and so forth) (B)	Funding source (C)	Amount budgeted (D)	School plan resources: Program budget areas: Lang. (E)	Read. (F)	Math. (G)	LES/NES (H)	Health (I)	Staff Dev (J)	Par/Fam Comm. Inv. (K)	Par/Fam Comm. Ed. (L)
2100	(1) 1424 Program Clerk Typist funded 4 hr.	Title I B24 F(1-4)	$ 3818						3818		
2100	(1) 1424 Resource Typist funded 3 hrs.	Title I B23 B	2863	716	716	716	715				
2100	(1) 3594 Media Library Para funded 3 hrs.	Title 1 B12 D(1-2)	3198	1599	1599						
3000	Employee Benefits	Title I	5607	1280	1280	1120	1120	106	381	160	160
4100	Instructional Supplies Pg.17 G2,H3 5 A106	Title I A14,5 A8	7566	1892	1892	1891	1893				
4500	Other Supplies	Title I Pg. (5) D6 4, D7C	1200						400	400	400
5200	Travel and Conference	Title I (4) D4 D1	1000						1000		
	TOTALS		$ 80420	$ 17213	$ 17213	$ 15453	$ 15452	$ 1172	$ 9599	$ 2159	$ 2159

Evaluation services included in centralized services $_____

Evaluation services performed by school personnel and included in the budget on this page $_____

Total evaluation services budgeted for school $_____

1. Total, columns E through L . . . . . $ 80420

2. Total centralized services (includes evaluation) (Must match total on page 8) . . . . . $ 8935

3. Total school program resources (Must match line 11, column (c) of page 2 of this school-level plan, and column (21) for this school on the page 7 series of A-127D.) . . . . . $ 89355

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